



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

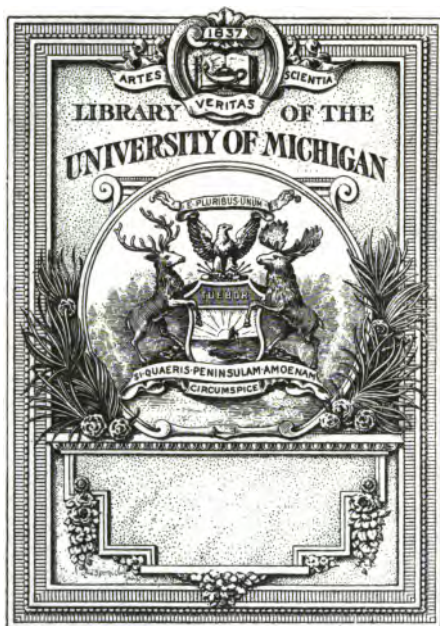
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

A

988,963

NATURE
AND
REVELATION





BL
240
.P96

7/10

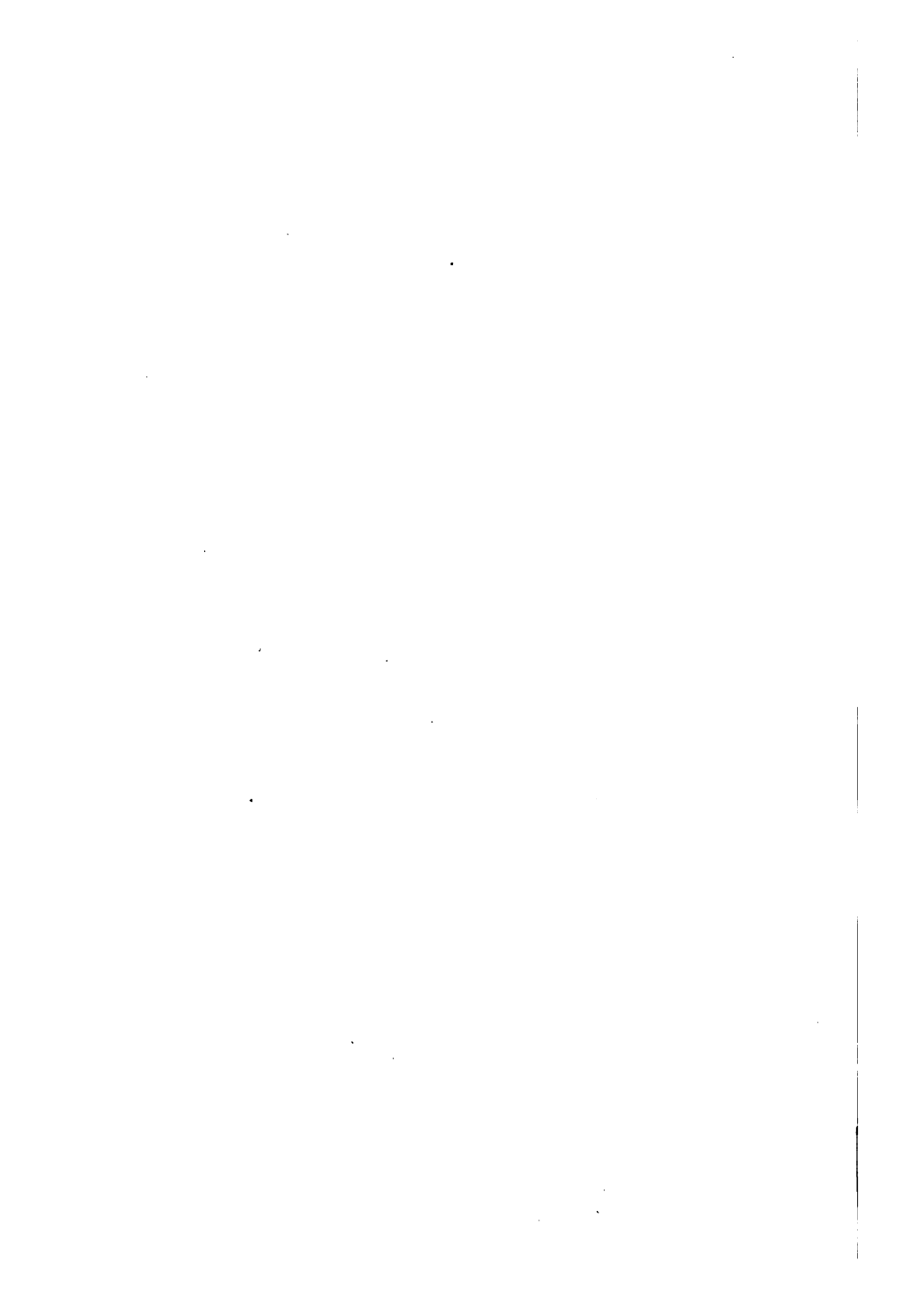
28

OCCASIONAL THOUGHTS
OF AN ASTRONOMER ON
NATURE AND REVELATION

OCCASIONAL THOUGHTS
OF 38000
AN ASTRONOMER
ON
NATURE & REVELATION

BY REV. ^{Charles} C. PRITCHARD, D.D., F.R.S.
SAVILIAN PROFESSOR OF ASTRONOMY, AND FELLOW OF NEW COLLEGE, OXFORD
HONORARY FELLOW OF ST. JOHN'S COLLEGE, AND FORMERLY
HULSEAN LECTURER, CAMBRIDGE

LONDON
JOHN MURRAY, ALBEMARLE STREET
1889



THIS VOLUME

IS GRATEFULLY INSCRIBED TO THE REVERED MEMORY

OF TWO OF THE MOST UPRIGHT

AND ENLIGHTENED MEN OF THEIR GENERATION

THE LATE LORD CHANCELLOR HATHERLEY

AND

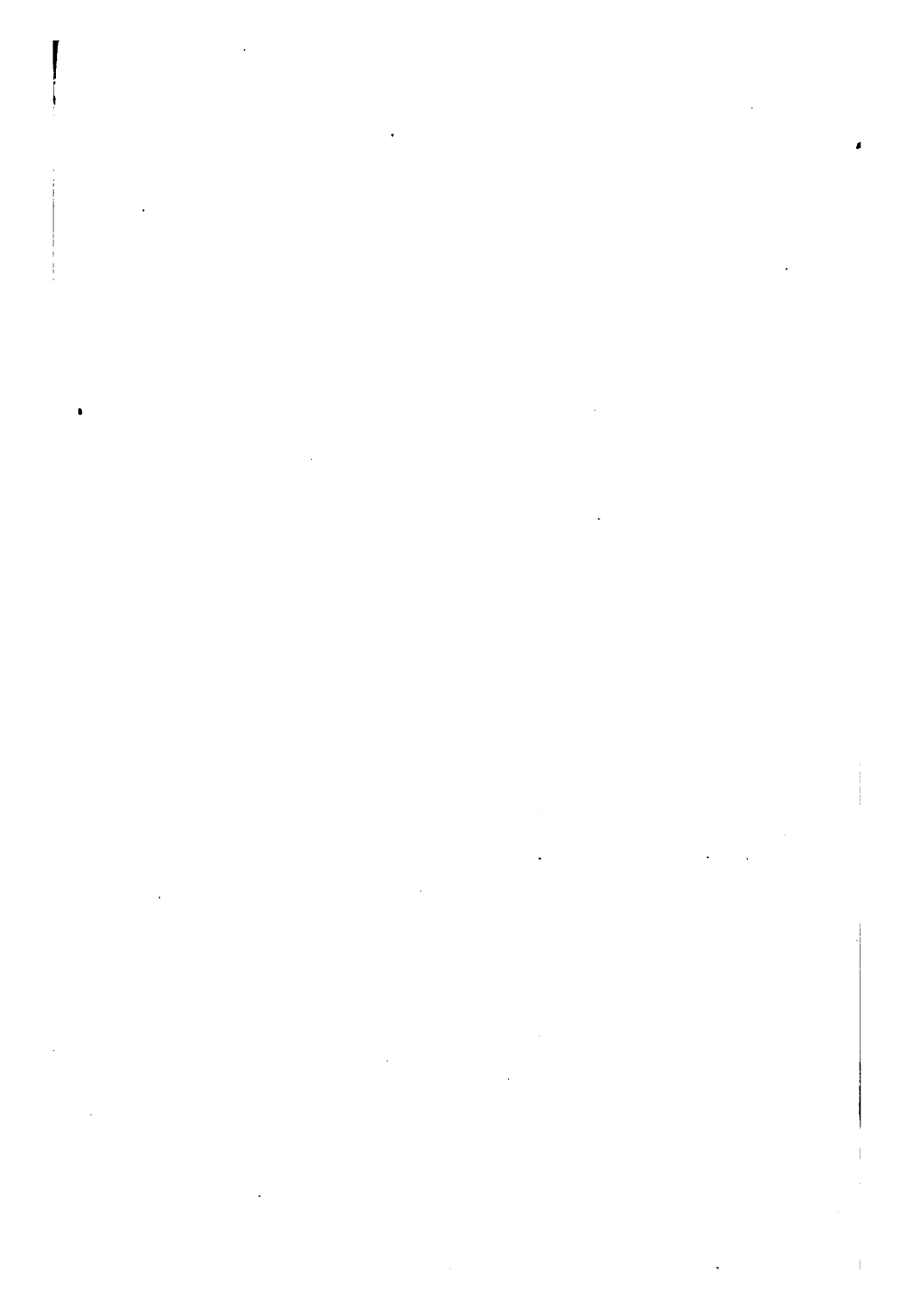
SIR JOHN HERSCHEL, BART.

TO WHOSE FRIENDSHIP AND COUNTEenance THE UTILISATION

OF THE LAST TWENTY YEARS OF MY LIFE

HAS BEEN MAINLY DUE

Recluse 7-1431-11.11.



PREFACE

THE following Discourses and Addresses were written during the intervals of an absorbing profession. Nevertheless they are not to be regarded merely as recreations sought for in a change of work, but rather as indications of the spontaneous undertones of a thoughtful life.

The audiences to which they were originally addressed were, generally speaking, circumscribed, such as meetings of the British Association and of Church Congresses, but to some troubled minds among them they are said to have been helpful. For the most part they touch upon subjects which appertain to all time, and they possess an interest for all men. It is under the above circumstances that these Discourses and Addresses, heretofore scattered, have been collected, and are now presented to a wider class of readers.

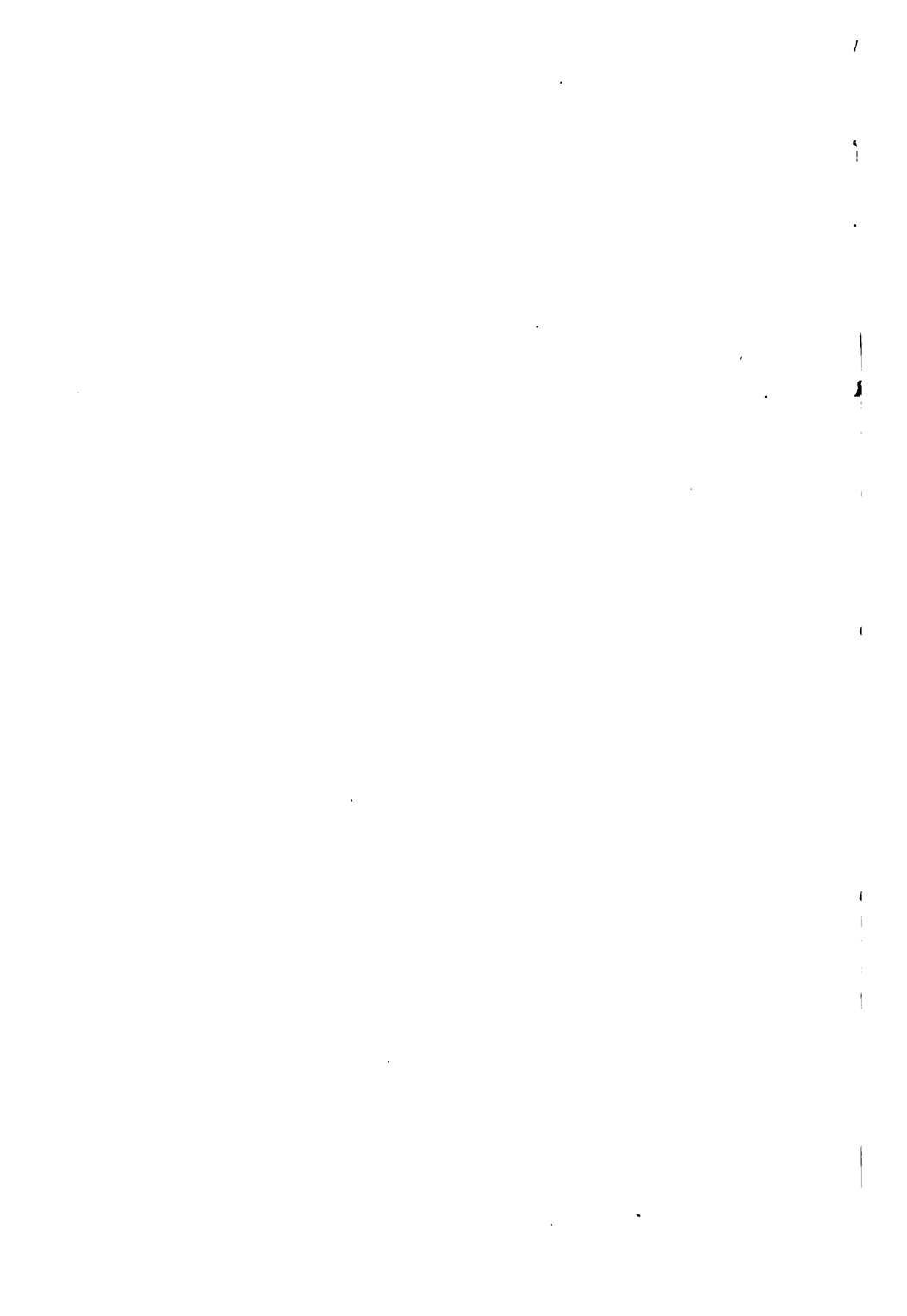


TABLE OF CONTENTS

I

THE CONTINUITY OF THE SCHEMES OF NATURE AND REVELATION.

	PAGE
A Discourse delivered before the British Association at Nottingham in 1866	I

II

THE ANALOGY OF INTELLECTUAL PROGRESS TO RELIGIOUS GROWTH.

A second Discourse delivered before the British Association at Dundee in 1867. (The death and character of Faraday)	53
---	----

III

THE TESTIMONY OF SCIENCE TO THE CONTINUITY OF THE DIVINE FORETHOUGHT FOR MAN.

A third Discourse delivered before the British Association at Exeter	81
---	----

IV

MODERN SCIENCE AND NATURAL RELIGION.

	PAGE
An Address read at the Church Congress at Brighton in 1874	119

V

ASPECTS OF NATURE IN RELATION TO MIRACLES
AND PROVIDENCE.

An Address read at the Church Congress at Swansea in 1879	143
---	-----

VI

SCEPTICISM AND FAITH
CONSIDERED IN THEIR RELATIONS TO THE PROGRESS
OF THE KNOWLEDGE OF NATURE.

An Address read at the Church Congress at Dublin . . .	161
--	-----

VII

THE SLOWNESS OF THE CREATIVE PROGRESS.

A Discourse forming the first of a Course of Hulsean Lectures, delivered before the University of Cambridge in 1866.	175
---	-----

VIII

DIFFICULTIES OF BELIEF.

An Address delivered to followers of Mr. Bradlaugh in Northampton	199
--	-----

CONTENTS

xi

IX

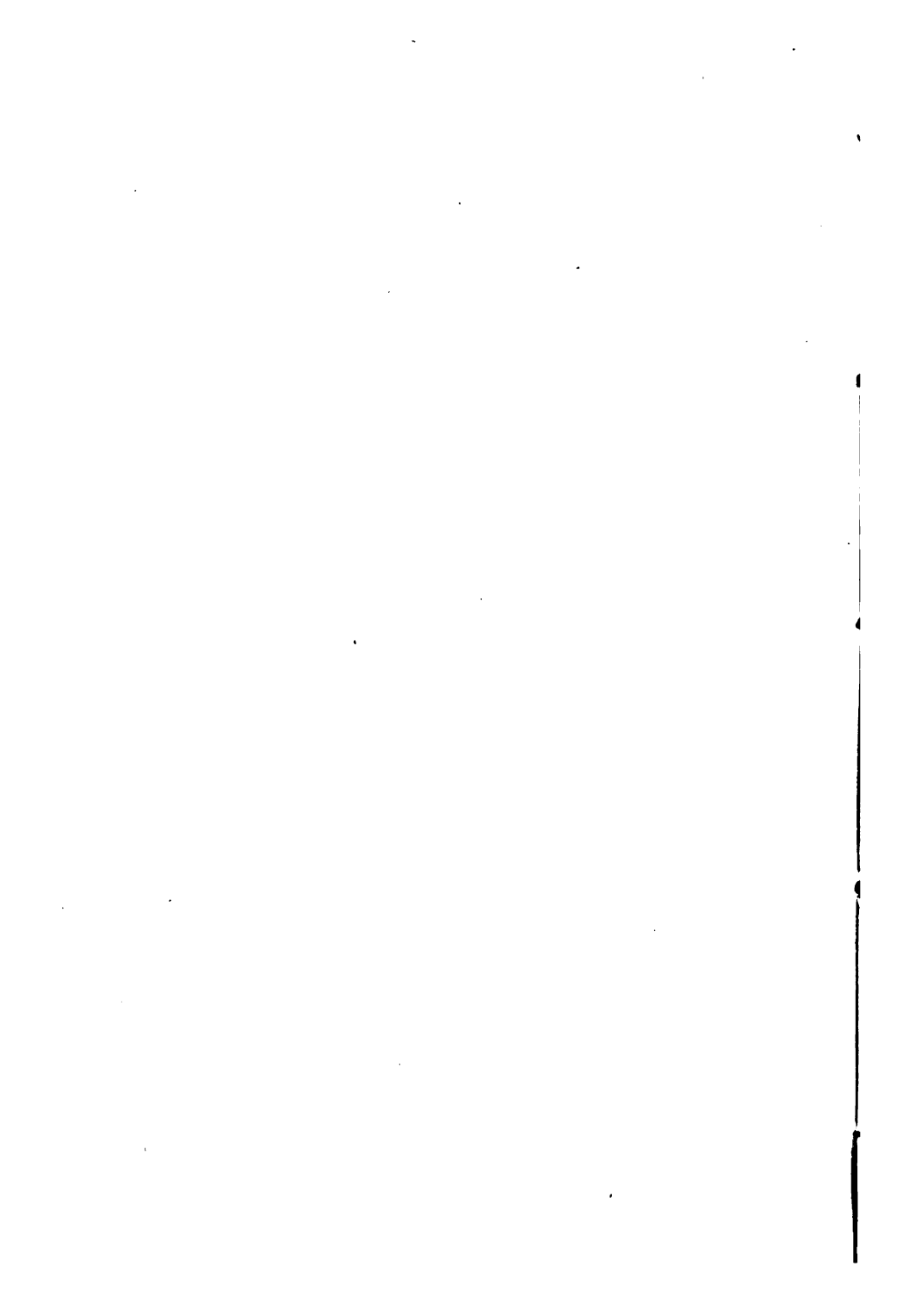
	PAGE
THE MIRACLE IN JOSHUA AT THE BATTLE OF BETH-HORON	227

X

THE STAR OF THE MAGI	243
--------------------------------	-----

XI

THE CREATION PROEM OF GENESIS	257
---	-----



I

THE CONTINUITY OF
THE SCHEMES OF NATURE AND
OF REVELATION

A discourse delivered, by request, on the occasion of the Meeting
of the British Association at Nottingham. With remarks on
some relations of modern knowledge to theology.

Σὺ μὲν τοι γε τὸν ἀπαξ παραδόμενον τοῦ κτίσαντος τὸν κόσμον
εἶναι ταύτας τὰς γραφὰς πεπεισθαι, ὅτι ὅσα περὶ τῆς κτίσεως ἀπαντα
τοῖς ζητοῦσι τὸν περὶ αὐτῆς λόγον, ταῦτα καὶ περὶ τῶν γραφῶν.—
ORIGEN, *Philocal.*

ΣΩ. Ἀναγκαῖον οὖν ἐστὶ περιμένειν ἕως ἂν τις μάθῃ ὡς δεῖ πρὸς
θεοὺς καὶ πρὸς ἀνθρώπους διακείσθαι.

ΑΑ. Πότε οὖν παρέσται ὁ χρόνος οὗτος, ὃ Σώκρατες ; καὶ τίς ὁ
παιδεύσων ; . . . ΣΩ. Οὗτός ἐστιν ὃ μέλει περὶ σοῦ.—
PLATO, *Alcib. II.* . . . RHÆDO, § 60, 61 . . . RE-
PUBLIC, § 427.

PREFACE

THIS Discourse was written at Nottingham, immediately after the delivery of Mr. (now Sir William) Grove's address to the British Association. Those who had the privilege of then hearing, or who have subsequently read, Mr. Grove's discourse, will at once perceive that his remarks on the System of Nature suggested mine on the Scheme of Divine Revelation. That eminent philosopher pointed out, with a graceful comprehensiveness peculiarly his own, how a Law of CONTINUITY pervades and embraces the whole physical universe, so far at least as our knowledge of it at present extends. There are no gaps, no sudden leaps in Nature, he observed, probably not even in the interstellar spaces themselves. Modern discovery seems to indicate with more or less distinctiveness that the sun and the larger planets are in their turns succeeded by smaller asteroids, and these again by swarms of revolving meteoric or planet-

ary dust ; the position of many of these swarms being at least partially determined, and the times and places when they become entangled and inflamed in our atmosphere being accurately known. Saturn, again, has his systems of rings of meteoric matter, and it may be that the sun is surrounded by that mysterious substance from whence proceeds the zodiacal light. All these systems of matter, moreover, are either identical in composition, or at all events contain many terrestrial elements in common. Naturalists also tell us that the same sort of unbroken gradation or CONTINUITY exists in the organic world ; species melting into species, they say, so that the further our knowledge extends, the more difficult it is to decide where one ends and another begins.

The evidence that such is probably the constitution of the things we see, was perhaps never more clearly and succinctly detailed than in the discourse to which I refer. While listening to this account of the constitution of Nature, Origen's remark, quoted by Bishop Butler, could scarcely fail to occur to the mind of any person at all versed in theology, and it certainly occurred to mine. Butler, indeed, for the purposes of his treatise, somewhat narrows the scope of what that most philosophical of ancient divines intends to imply, for the version which he gives is this :

"He who believes the Scriptures to have proceeded from the author of Nature, may well expect to find the same sort of difficulties in them as are found in the constitution of Nature."¹ Origen's remark, however, does not appear to be restricted to the question of *difficulties* alone, but to include any and all generic relations of created things which may be discovered by human research. Had he spoken in the language of our day he would probably have said, "There is a *Continuity* between the Scheme of Nature and the Scheme of Revelation, as recorded in the Scriptures."

In this point of view, and so far as the very restricted limits assigned to me would permit, I have endeavoured to show how the great scheme of redemption may be regarded as a grand continuation, or rather as the divine climax, of that system of intervention and vicarious suffering which not only pervades the natural world, but without which merciful alleviation, that world would become a scene of hopeless misery. Butler, as is well known, has already shown the same thing, under the idea of Analogy, which I here present under the thought of gradation or continuity. I then proceed to show how faith in the Redeemer is a grand continuation also, or rather is the divine climax of that principle of trustful-

¹ *Analogy*, Introduction. See the original facing the Preface.

ness in each other, which forms the very cement of the social fabric. Lastly, I have given my reasons for representing the restoration or sanctification of man's moral character by communion with God, as in the main a sacred extension of that Imitative Principle acting through association, which it has pleased God to implant in our nature for many wise and moral purposes, and which in this case He adorns with His especial grace.

I do not pretend that there is anything essentially new in these thoughts ; if there were, this very novelty would have been, to me at least, a sufficient reason for a very guarded reconsideration. But then the *grouping*, I believe, is new, just as the grouping of certain acknowledged principles in the scheme of nature, under the term Continuity, is new on the part of Mr. Grove. I think also, that this mode of viewing the scheme of Revelation, as contained in the Holy Scriptures, is not without considerable importance. For surely it must be a matter of great interest to the Christian student, to see how each fresh accession of human knowledge which God has permitted (and as I think has intended) His creatures to make, regarding the natural world, not seldom serves also to illustrate and confirm our faith in that scheme of divine government or

dispensation which is revealed to us in the Bible. It was mainly this consideration which induced me to select this new topic of Continuity, as the proper subject for an address from the pulpit to the members of the British Association for the Advancement of Science ; and I have to express my gratitude for the patient and respectful hearing which they gave to my remarks.

It may not here be out of place to observe, that the word Continuity is not the only philosophical term for which we are indebted to Mr. Grove. This term he has applied to the *plan* of nature throughout its known extent ; but he has also proposed another word, which groups together the *forces* of nature in a singularly happy and expressive manner. These forces co-exist, interlace, osculate with each other ; they are capable of evolution in a definite manner, the one from the other. The associations of matter with motion, light, heat, electricity, magnetism, and chemical action, are all (in the language of Mr. Grove) CORRELATED, and within prescribed limits, are interchangeable in quality and in quantity. This CORRELATION of the physical forces may, I think, be regarded as, upon the whole, the most remarkable discovery since the discussion of the Laws of Gravitation by Newton ; and there are not wanting reasons to expect that even the attraction of gravitation itself may

be found to be a link in the same physical chain. Now, since it is thus shown that the Divine Governor of the universe has seen fit to bind, in one bond of Correlation, the forces acting in that part of His dominions which are *seen*; ought we not, in the spirit of Origen's remark, to look for a similar Correlation between those principles or laws, which have their proper functions in that part of the Divine Government, which, though *not seen*, is revealed? If we seek for it, we shall find it.

For where do the laws of Providence, for instance, end, and where do the laws of Grace begin? are not both of them phases of the same Divine loving care? Does not the one presuppose the other? And a similar remark holds good regarding the functions of Faith, and Hope, and Love, and Obedience. Is not Hope the twin-sister of Faith? And is not Obedience the daughter of Love?¹ And what becomes of Obedience when Faith is under a cloud? And in the great scheme of Man's redemption, does not an Apostle tell us that Justification and Sanctification co-exist and interlace? and may not this fact go far to explain the interminable and sometimes unloving discussions regarding their true origin and their distinctive functions?

¹ See Wordsworth's *Ode to Duty*.

Hence the sagacious remark made by Origen some fifteen centuries ago, like the expressions of other comprehensive truths, proves to be prophetic, and reaches to us and embraces our children. And this leads me to observe how unnecessary and how suicidal is that timidity, not to use a stronger term, with which many religious persons, and, I regret to add, some divines among us, receive the successive disclosures of the constitution of natural things, which of late years have come upon us in thick abundance. Such timidity is *unnecessary*, because each new fact, each new truth, when fairly presented to the mind, if only it be a truth, cannot fail to become a new illustration of Him whom they know to be The Truth, and whom they profess to love. For my own part, and I hope I say it with no affectation, and I am sure I say it with no reserve, from the results of modern research, I have gathered additional reasons for resting in the simplicity of the ancient Christian faith, and in modern discoveries I have found many a new and unexpected trace of the Creator's majesty, of His power, His wisdom, and His love. Some instances of what I mean will, it is hoped, be found in the Sermon which follows these remarks. May I be permitted to say, that if the progress of knowledge shall, on a calm and impartial review, induce Theologians somewhat to modify, here and

there, a popular, or hasty, or merely human interpretation of one or two portions of the Divine Revelation, then, judging from my own experience, I feel assured that, with this increase of intelligent perception of the Will of God, there must be associated the exaltation of our reverential love of His Word.

But it seems to me to be worth considering whether this suspicious timidity regarding science and scientific men, may not after all be grounded on an entire mistake. For after all, is it *true* that the pursuit of science has any inherent tendency towards religious scepticism? I would venture to ask whether Kepler, or Newton, or Leibnitz, or Euler, or Linnæus, or Cuvier, were sceptics? If it were not that obvious reasons forbid it, I could put, without misgiving, the same question in reference to the great majority in the long phalanx of living men, who are devoting God's noble gift of genius to the elucidation of God's works. I do not say that the fashionable Agnosticism of the day has not found some adherents among men of science, as it has found many among educated men of every class. But it is *pre-occupation of mind*, rather than science, which is, and ever has been, the prolific parent of scepticism and of indifference in religion. Are not the pre-occupations of high position, the pre-occupations of

ambition, of literature, of money-getting and of money-spending, of conceit, of sensual habits, and even of idleness, at least as unfriendly to the hearty acceptance of the Christian revelation, as are the pre-occupations of scientific pursuits? I trust I am not guilty of speaking in a presumptuous spirit, if I venture to remark that enormous mischief has arisen from ill-judged, unmerited, and often very ignorant attacks which have been made upon the supposed tendencies of science, and the supposed scepticism of scientific men, from the pulpit, in religious circles, and in religious publications. It is agreeable to no man to be pointed at with the finger of suspicion; and men of sensitive and independent minds will leave, and within my own knowledge have left, a ministration of God's word, not from any original distaste for revealed truth, but because they have found themselves, and the at least innocent pursuits they love, made the object of covert, and unkind, and ignorant comment. It can be no exaggeration to say, that such an alienation of any highly gifted and influential mind is nothing short of a public loss, and that, therefore, the timidity in question is *suicidal*.

On the other hand, it cannot be doubted, and it may not be concealed, that there is a *reticence*, and I wish I were wrong in adding there is a

growing reticence, observable in the writings of some able men, which is both disappointing and painful to religious minds. It is a reticence regarding that Eternal Father, Who, even on principles of natural religion alone, is the Prime Cause, and the Governor of that universe, the frame-work of which is the object of the researches of these thoughtful men. It may be that one cause of this reticence is, the natural reaction from certain violations of good taste and propriety, which at one time abounded in the (after all, well-meant) writings of second-hand writers and religious sciolists. It may be that another cause is to be found in the fact that these great writers have in their own minds intentionally distinguished the subjective from the objective, separating the things of sight from the things of faith ; but whatever the causes may be, the fact remains, and as I have said, it is both disappointing and painful. I will only venture to add one observation more upon this subject, and I am sure that the great writers to whom with unfeigned respect I allude, will bear me out in the justness of the remark—and it is this ; the giants of old, who were the pioneers of modern knowledge, the Keplers for instance, the Newtons, the Bernoullis, the Eulers of ancient fame, had no such reticence. Why should the sons be more reticent than the fathers ?

In this behest I cannot do better than conclude with a few passages out of that magnificent Scholium with which Newton closes the *Principia*, and if I give the original it is because I despair of making or of finding a version which could reproduce the eloquence of Newton's words:—

"Elegantissima hæcce solis planetarum et cometarum compages, non nisi consilio et dominio entis intelligentis et potentis oriri potuit. Et si stellæ fixæ sint centra similium systematum, hæc omnia simili consilio constructa suberunt UNIUS dominio . . . Hic omnia regit non ut anima mundi, sed ut Universorum Dominus. Et propter dominium suum, Dominus Deus Παντοκράτωρ dici solet. Nam Deus est vox relativa, et ad servos refertur; et deitas est dominatio Dei, non in corpus proprium, uti sentiunt quibus Deus est anima mundi, sed in servos. Deus summus est ens æternum, infinitum, absolute perfectum . . . Non est æternitas et infinitas, sed æternus et infinitus; non est duratio et spatium, sed durat et adest . . . Ut cæcus non habet ideam colorum, sic nos ideam non habemus modorum, quibus Deus sapientissimus sentit et intelligit omnia . . . Corpore omni et figurâ corporeâ prorsus destituitur, ideoque videri non potest, nec audiri, nec tangi, nec sub specie rei alicujus corporeæ coli debet . . . Hunc cognoscimus solummodo per proprietates ejus et attributa, et per sapien-

tissimas et optimas rerum structuræ et causas finales, et admiramur ob perfectiones; veneramur autem et colimus ob dominium. Colimus enim ut servi, et Deus sine dominio, providentiâ, et causis finalibus nihil aliud est quam fatum et natura. A cæca necessitate metaphysicâ, quæ eadem est et semper et ubique, nulla oritur rerum variatio. Tota rerum conditarum pro locis ac temporibus diversitas, ab ideis et voluntate entis necessario existentis solummodo oriri potuit . . . Et hæc de Deo, de quo utique ex phænomenis disserere ad philosophiam naturalem pertinet."

In the notes, I have given what appear to me valid reasons, drawn from astronomical and physical considerations, why I cannot accept, to its full extent, Mr. Darwin's Theory of Natural Selection, as explaining the development of the human Eye from some greatly inferior organisation.¹ If the arguments are correct they extend to other organs also. In the strictures on this theory, I trust not a word will be found inconsistent with that respectful admiration which I, in common with most educated men, entertain for the author of some of the most charming books in our language. I hope, also, Dr. Tyndall² will find no just cause for complaint in the manner of my taking exception to some of his recent remarks on Prayer.

¹ Appendix, Note A.

² Appendix, Note B.

The great mental agitation on subjects connected with Religion, for which this age is remarkable, so far from furnishing a reasonable cause for despondency, may fairly be viewed as a providential opportunity for learned and high-placed divines to exhibit and enforce such new aspects of truth as they may consider to have been overlooked. It was in this light that Augustine habitually regarded the controversies of his day. It is Anathema, and not moderation in argument, that is a sure sign either of a falling or a weakly supported cause. In contending with an opponent, nothing is gained by that assumption of a tone of superiority or by that "look of offence, which though harmless in effect, nevertheless," in the words of the greatest of ancient historians,¹ "is troublesome and painful to those who endure it."

¹ Thucyd., lib. ii. cap. 37.

THE CONTINUITY OF THE SCHEMES OF NATURE AND OF REVELATION

"I know that whatsoever God doeth, it shall be for ever : nothing can be put to it, nor any thing taken from it : and God doeth it that men should fear before Him. That which hath been is now ; and that which is to be hath already been."—ECCLES. iii. 14, 15.

THESE words would be sufficiently striking even if they were the language of an ordinary man. Coming from a man pre-eminent for wisdom, and opportunity, and experience, from one whose mind, moreover, was illuminated by the inspiration of God, our text assumes an aspect of more than common importance.

It is possible, indeed, that to some persons our text may suggest unwelcome thoughts of the fixity of human individual destiny : you may imagine for a moment that Solomon therein describes man as entangled in the meshes of an iron necessity from which he cannot escape ; man, not so much the sport, as the victim of his circum-

stances ; man, as playing in his little day his predestined part, just as other men in their generations before him played their own ; for is it not said by the Royal Preacher, "I know that what God doeth He doeth it for ever ; that which hath been is now, and that which is to be hath already been?" But I hope to speak to you to-night of an interpretation of these remarkable words truer, and deeper, and more hopeful. True, I shall have to speak of permanent, inevitable laws imposed by the Omnipotent Creator upon the very constitution of His creature's being, and on all the various circumstances which surround him or affect him : but then these laws are devised in consummate wisdom, and are executed in unswerving love ; these laws of our moral, our spiritual being, are to us the expressions of a holy Father's will, they are the explanations of the scheme of His righteous government ; they are to us, and within the limits of our mental powers, the unfolding of the plan on which the creation of mind, and spirit, and matter, was devised and is still sustained.

So far from forging the links of an iron necessity for the thralldom of man, the permanence and invariability of these laws secure the charter of man's liberty of action, they constitute him a responsible creature, they lie at the foundation of

his dearest hopes. It is alone because these laws of nature and of being are permanent, that man is enabled to foresee the consequence of his doings; it is on the security of this ground that he acts with foresight and with confidence, forming and persevering in his plans in the fulness of hope. Nay, your town is at this time thronged with a concourse of thoughtful and sagacious men, not solely for the interchange of kindly greetings, but to aid and encourage each other in the search for truths which they know are ordained of God, for purposes beyond those of to-day or of to-morrow, and concerning which they know that, "Whatsoever God doeth, He doeth it *for ever*; nothing can be put to it or taken from it: and God doeth it that men should fear Him."

What I want to show you, or to bring to your remembrance to-night, is this:—I want to convince you, if you need the conviction, that those great cardinal facts, or doctrines as we call them, of the Christian faith, which are made known to us by revelation from God, are analogous to, or I might even say are in continuity with, those other ordinary facts or principles, by the application of which it is ordained of God that you and I live our hourly life, and that human society coheres day by day. I do not, indeed, mean to say that, by any stretch of thought, the unaided mind of

man could have devised or could have conceived so mighty a scheme as that of the redemption of the great human family (for instance) through the agency of a crucified Redeemer. I do not mean to say that man, of himself and out of himself alone, could have originated the thought of salvation from the consequences and the power of sin, by faith in that Redeemer. But I do mean to say, that so soon as these cardinal facts of the Christian faith have been taught us, on examination we find they are all of a piece, and all in consistency with those other wise and beneficent arrangements, which we discern in the world around us and within us. Herein, I say, are verified the words of our text, "That which hath been is now; and that which is to be hath already been."

I propose then, under this point of view, to consider,

I. The Redemption of mankind by a suffering Redeemer.

II. The Salvation of man from sin, and from its consequences, by faith in that Redeemer.

III. The Sanctification of man's character, *i.e.* the development of his moral being into righteousness, by the operation of the Divine Spirit, and through prayer.

And my aim, as I have said, will be to show

you that these cardinal facts or chief doctrines of revelation are majestic instances of that same sort of CONTINUITY of the Divine plan in the moral and spiritual world, which we have so lately and so ably been taught to observe in the universe of matter. All these several arrangements, I say, are but consistent and CONTINUOUS parts of one Divine magnificent plan, ordained of old by the Eternal Father; "nothing can be put to it, nor anything taken from it. That which hath been is now; and that which is to be hath been already."

And first, as touching Redemption by a suffering Redeemer.

Society, the whole fabric of the moral world, is carried on and is held together by a law, by a scheme of natural intervention or mediation; I think you could scarcely name a joy you have ever felt, or a trouble from which you have ever escaped, which you cannot trace to the intervention of another, and not rarely to an intervention effected with pain to the intervener.

Think of the little babe;—there it lies, joyous and redolent with the promise of the activities of life, yet utterly helpless and dependent upon others' care. But think also of the pale face of her whose strength scarce suffices to nestle her little one in her nerveless arms. Nay, without my bidding, some of you perforce recall to memory,

how the mother's pulse ceased to beat before she could utter a parent's blessing on her child. And what is all this? what is it but the redemption of a life, at the cost of the sufferings of another?

Pass onwards a few years, and trace that child now walking with elastic step at his father's side—but look upwards at the father's face; you will not be surprised to find many a deep furrow there, furrows that bear testimony to the father's anxieties and the father's toils—anxieties and toils, that the bright boy who walks at his side may have a good offset for the battle of life before him,—nay, anxieties and toils sometimes deep and inevitable for the bare supply of that child's daily bread. And what means all this? What is it but redemption again, sometimes procured at the cost of labour, and suffering, and tears?

And when is it that you cease to hear men speak of their "friends"? What other word so common among us? Need I remind you what that word "friend" implies? Alas! for the most part it implies, *not* the confiding interchange of thought, *not* the sweet comparison of experience, and hope, and aspiration, *not* the pleasant suggestions which arise from community of taste; for such high privileges are reserved for those only who by patient continuance in well-doing have

acquired a capacity to enjoy them ; but that commonest of words, a "friend," bears testimony to that commonness of weakness which looks for aid in another's strength ; to that commonness of wants which seek their supply in another's abundance ; it bears testimony to that commonness of troubles which not rarely can be removed solely at the cost of another's pains, even greater than those which they assuage. There is not, there cannot be, a man before me, who may not trace, again and again, instances of what I mean in his own personal history. "I speak of what we know and feel within."

And think again, for a moment, even of the arts and conveniences of life ; of the appliances, the inventions, the discoveries which God hath ordained to ennoble life : such results come at no man's light bidding ; the discovery, the invention may come, and in fact must come at last, like a flash, but the happy, the final thought comes to the man of genius only after days, and nights, or even years of patient endurance in intellectual toil. And when it does come to him, not seldom the health is failing, or the lamp of life is flickering and burnt low ; or other men step in, reaping the harvest of his toil, and leaving him little more than the gleanings of the field, the sowing whereof was all his own. Look at the countenances of

the chiefs among those able men who now throng your town, and on their brows you will find many a trace of the midnight struggle with thought, ageing them before they have reached their prime : "one soweth and another reapeth." These men labour—you and I "enter into their labours."

And so I might proceed with other instances of a like import ; if the time allowed, I might more than briefly allude to the well-known names of noble men and of noble women still living among us, who, like apostles and martyrs of old, count not their lives dear unto them, if only they may help the helpless, cheer the cheerless, raise the fallen, and impart the joy of hope to the spirit of the dying. But I forbear ; for one continuous system of redemption and of vicarious suffering has been ordained of God as the very law and the plan of our natural being.

Now, such being the scheme, such the manner after which it has pleased the Eternal Creator to impart the joys, to assuage the sorrows, and to enlighten the ignorance, of His creatures in this their natural life, which endures but for threescore years and ten, I ask you, Is there anything which can reasonably jar upon our feelings if we find that the Eternal Father, in His marvellous beneficence, has interposed after a like, though *a higher manner*, on behalf of His children in those

higher relations of theirs which endure for ever? For without some interposition, without some communication from on high, what can man learn by his natural faculties of the life to come? Without this interposition, what can he ascertain by his natural faculties of the world of spirit? Does God really care for man with an individual, with a personal care? Will God hear his prayer? Did he intend him to pray? Can there be any sympathy between a pure Almighty God and a sinful man, conscious of his wilful sin? Is it possible for such a man to be at one with such a God?

To these anxious questions, the wisest men of ancient times admitted that of themselves they could give no reply. Yet, strange to say, Socrates, confessedly the wisest of them all, more than once, and as it were with the voice of prophecy, expressed his strong conviction, that the God who, he said, manifestly "*cared*" for man, would one day *send him a teacher to instruct him*. What wonder, then, if in the fulness of time God should take compassion on the lost, and ignorant, and pitiable condition of His children, and, through the mediation of Christ and His matchless example, teach the world what a good man should be, and what a good man may be? What wonder, moreover, if God, through the mediation of His Divine Son, should thus give to man a

distinct and *living manifestation* of all that a finite being need know, or can know, of the infinite Godhead? And further still, what wonder if this interposition, this mediation thus made by the Son of God on man's behalf, should be accompanied by the suffering and the death of the Redeemer? Would it not be all of a piece, would it not be in harmony, in CONTINUITY with those other numberless natural interventions in man's behalf, which by God's natural appointment we see involve the sufferings of the intervener?

But more still remains. Man is not only confessedly pitiable and ignorant, but he is, and he knows he is, both sinful and a wilful sinner against God. What shall—what can put away such sin? What can make an atonement, a reconciliation between this sinning creature and this all-pure but offended God? How can the two be brought together? The Revelation of God's will to us in the Gospel of His Son tells us that all this is accomplished through the Cross of the Redeemer Christ. If you ask me why, or how such things can be, I cannot tell you; at least, by no means fully so. But then, in the natural world, I cannot tell you what, in their subtle essence, are those mysterious agencies called light, or heat, or electricity, or magnetism, or gravitation. Of some of their relations, and of some

portion of the laws under which they are ordained to act, men of genius, after the patience and the failures of ages, have at length caught a glimpse, and of these they have taken ample advantage in the appliances of life. But what these agencies are *in themselves*, who can tell? Neither in the natural world do I know why "like produces like," nor do I know why the worlds, and the creatures which our world contains, are constrained to abide the slow process of their growth, and start not at once into the fulness of their being, like Minerva in her panoply. And if again I turn to the moral world, I cannot tell you why a righteous Creator permitted sin to defile the beautiful world which He created. I cannot tell you why a loving and wise Father permitted sorrow, and ignorance, and wrong, to be the lot of all His children; but as I see that in the natural world He has provided the mediation and suffering of one man to remove the suffering or the ignorance of another, why should I cavil at a revelation which tells me that man may be pardoned and reconciled to God, through the humiliation, the life, the example, the death, the vicarious sufferings of His incarnate Son? These things angels may well desire to look into.

"They are higher than heaven, what can I do?
They are deeper than hell, what can I know?"

So I will bow my head, and I will place myself at the foot of the Saviour's Cross. I will wonder and adore, and I will stay my mind on God. All that I know is, that the law of Divine Redemption is in harmony, in CONTINUITY with God's other dispensations, and I see that herein "whatsoever God doeth, it shall be for ever. I know that what hath been is now, and that which is to be hath already been."

II. We now come to another law of the moral world, to the great Christian scheme of salvation by FAITH in Christ Jesus. Many are the attributes which in the Gospel are assigned to Faith. By faith the Christian is said to stand ; by faith he walks ; by faith he is made pure ; by faith he removes mountains ; by faith he overcomes all things ; by faith he lives, he is justified, and he is saved. But if these attributes assigned to Faith are great, so also are the cavils with which men in all ages have been disposed to admit her claims, and many and grievous are the charges which they have laid at her door. For is it practically found, men have asked—and they have the right to ask it—is it in accordance with experience, that men lead holy lives in proportion to the strength of their religious convictions, and to the purity and perfection of the creeds which they profess? The devils have their convictions, yet the devils tremble and are impure. What, then, is the true source of

these apparent contradictions? It lies mainly, I think, in a mistake as to the meaning of the term FAITH itself. Let us try then to ascertain what this much-vaunted, much-misunderstood principle really is. And here I observe, that if there is any one English word which will explain it, it is *trustfulness*, the trustfulness of love.¹ Indeed, in the English translation of the Old Testament, the equivalent to the same word in the New is invariably rendered by the word "trust"; and if I were to recount to you all the achievements attributed in the Old Testament to *trust* in Jehovah, I should have to repeat to you a large portion of the Old Testament itself; and you would soon perceive how the results of this *trust* in Israel's God, as there revealed, are very much the same as those assigned to *faith* in God as now more fully made known to us in the Gospel of Christ Jesus. So far, then, we may even here observe a CONTINUITY in the principles of God's dispensations to His creatures, as exhibited to the men of old time, and to us Christians in these latter days. But I wish to go further, and I wish to show you how this same principle of faith, or trustfulness, is the very keystone of the arch of our social fabric, the very strength of our daily natural lives. Now, as in the illustration of the principle of vicarious

¹ So Luther says again and again, *Fides est fiducia*.

suffering, which runs through the world of nature, we took the mother's pitiable condition at the birth of her child, so here, to exemplify the continuity of faith, we shall take the instance of the young child itself. For the first years of its existence its whole life is of necessity a life of dependence and trust. In faith it seeks its natural food ; in faith it nestles itself in its mother's breast ; in faith it strives to stand ; in faith it lisps the fond names of father and of mother ; and, blessed be God, in this Christian land in faith it sits upon its mother's lap, and with stammering lips learns to call upon the name of Jesus. As years advance the young child walks at his father's side, and, gazing in his father's face with unquestioning faith, learns from him and applies the first lessons of the life before him. Thus the young child, by the natural ordinance of God, is, as it were, reared and nurtured in a cradle of faith, and if not too indocile he soon becomes a fitting emblem (and the illustration here is not mine, you will see)—he becomes an emblem of those children of an elder growth, who, in their maturity, shall by faith live the life of the true citizens of the kingdom of God.

But these early lessons in faith stop not here. In faith and patience he painfully learns the arts of maturer life. In faith he ploughs ; in faith he

sows ; in faith he gathers into barns ; in faith he launches into the deep ; in faith he borrows ; in faith he lends ; in faith he carries on his commerce with his brother man, often and of necessity confiding to his trust the very means to which he looks for his daily bread. Need you any further illustration of what faith is, and what faith achieves ? Think for a moment of that wonderful thread which now, by God's good pleasure, unites and associates two distant continents. It was FAITH that laid that wire, overcoming the elements, scaling the mountains, and spanning the unknown caverns which form the dark floor of the ocean. It was faith, I say, which for days and nights together, without one moment's intermission, kept the strong, untiring arm, and the fixed, watchful eye, upon the marvellous appliances, until they reached the haven where they would be, and had learnt that the mother of many nations had in the flash of a moment sent the greeting of love to her child in the far-off west. Meanwhile, strange to say, upon the shores of the East, there were other and less harmonious sounds to be heard than those of the triumph of the victory of faith. These were the sounds of wailing : Germany weeping for her children because they were not ; and among ourselves, thousands of hearts failing them for fear of the wreck of their substance.

And wherefore were these sounds of mourning, and whence came this fear? You may trace them to the absence of FAITH. Nations and men had lost their faith in each other, and the offspring of Distrust are War and Panic. Hand in hand, and close by the side of FAITH, stands her sister HARMONY; when FAITH departs, CHAOS takes her place.

Thus you see that the faith in Jesus, the trust, I mean, in a sympathising, personal Saviour, whereby the Christian stands; the faith in Jesus whereby the sinner is purified, justified, and saved, is, after all, no new principle, but rather the old and abiding principle of trustfulness, which alone gives cohesion to our natural life. It is the old principle indeed,—but the old principle greatly heightened, intensified, sanctified by the Spirit of God. It is the golden chain which unites the visible world of flesh with the unseen world of spirit, assuring the child of nature that he is also the child of God. Here then, again, and once more, we observe the CONTINUITY of the natural dispensations of God's providence with the spiritual dispensation of God's grace; and herein it is that we know that "what God doeth, He doeth it for ever,"—"that which hath been is now; and that which is to be hath already been."

III. And now, had the time permitted, as I had hoped it would, I should have tried to show

you how even the great doctrine of the sanctification of man's character by the Spirit of God, effected for the most part through the medium of prayer, is again all of a piece, and in continuity with other eternal principles which God has impressed upon our natural being ; but the subject is too large a one for me at this late hour to draw upon your patience. Nevertheless, some few thoughts must be briefly expressed to you on the subject of PRAYER.

I need scarcely remind you that it is in prayer that the true, the advanced Christian lives. It is his soul's daily, hourly food. But, after all, what is this prayer? Is there anything which at all resembles it and its effects in the world of flesh wherein we move? Prayer, in its deep reality and in its highest form, is the reverential intercourse of the Christian's spirit with the spiritual world: it is reverential communion with God,—communion with God (that is) as manifested to our apprehension in the person of Christ Jesus. Now let me ask you, what takes place in the ways of a man's life, who lives much in the communion and society of his friends? Does he not by this intercourse catch their modes of thought? Does he not contract their habits, and imitate their manner of life? And all this result arises from a great principle of *imitation*—a principle of

imitation, which God for the wisest purpose has implanted so fixedly in the nature of man. Just so,—only in a higher, and holier, and more reverential degree,—even so with the Christian in his true prayers and in communion with God. Just in proportion to the reality and frequency of this holy, spiritual intercourse, will be the gradual approximation of his own character to that of the ineffably perfect and Holy Being who, through the great name of Jesus, permits and encourages His creatures to approach Him. Hence it is that we read such words as “growth in grace,” and of the Christian being “built up into the measure of the stature of the fulness of Christ.” Need you an example of what I mean? Think for a moment of the Apostle John: in him, beyond all other men, shine conspicuously the qualities of sincerity and dignity and love; and were not these especially the characteristics of the one, perfect, matchless, Divine Man, who made the Apostle His companion, ever walking at his Master’s side and leaning on His bosom as He sat at meat, and in the walk and at the meal catching the undertones of his Master’s voice? And so it is, in his own measure and degree, with every Christian who really communes with God; his character becomes gradually moulded into the character of Christ; and thus more nearly

resembling Christ, he gradually becomes more amiable and social, more truthful, more self-constrained, more forgiving, more peaceful. I say especially, more *peaceful*. For, mark you, what is the Law of Prayer in the kingdom of God? It is "men ought always to pray and not to faint;" it is "in everything by prayer and supplication, with thanksgiving, let your requests be made known unto God:" nor must we forget, that He who is our example and "all our hope," added to His own prayer, "nevertheless, not my will, but THINE be done." And then, mark you, with especial care, what is the Law of the Promise attached to prayer. It is *not* that the bitter cup shall, in all cases, be put away; it is *not* that the thorn in the flesh shall, in all cases, be removed; it is *not* that the precise petitions shall be as precisely granted; but, better far than this, the Law of the Promise is, that God, if need be, will give fortitude to drink the cup, strength to bear the cross, grace sufficient to endure the thorn. Beyond all, the Law of the Promise is, that the Christian shall rise from his knees *peaceful*; he shall become peaceful, like the God of Peace with whose Spirit he has held communion, and at whose footstool he has prayed. "Let your requests be made known unto God, and the PEACE OF GOD,—the peace of God which passeth all

understanding, shall *garrison* your hearts and minds." "Thou shalt keep him in perfect peace whose mind is stayed on God."

In the strength of this peace of God, Stephen, before the face of those who stoned him, fell asleep in Jesus, praying, "Lord, lay not this sin to their charge."

In this peace, Paul and Silas, thrust into the prison with their feet made fast in the stocks, at midnight sang praises unto God.

In this peace, Polycarp bade the executioner leave him unbound at the stake, for that same God, in communion with whom he had lived, would nerve him, that he flinched not when he died.

In this peace, Boniface, the martyr and apostle to the Germans, before setting out on his last missionary journey, bravely but calmly thus gave his final instructions: "My son, place in the chest with my books a linen cloth, in which, should occasion arise, they may wrap my worn-out corpse."

In this peace, Luther stood before his enemies, and the enemies of truth, at the Diet of Worms, and, taking the Bible in his hands, exclaimed, "*By this I stand!*"

In this peace, Rowland Taylor, of Hadley, walked to the stake with head erect and hopeful

eye, as a man would return to the home that he loved.

In this peace, Ridley looked forward with joy to the flames, and bade his sister come to his marriage.

In this peace, thousands upon thousands of God's children, far from the gaze and the applause of the crowd, have kept the even tenor of a Christian life, in prosperity without elation, in penury without discontent, in bereavements without questionings, in suffering without repining, in revilings without reviling again.

These all lived in prayer and communion with God, and, like God, they became PEACEFUL ; and after this law, so it may be with you and me, for "*I know that whatsoever God doeth, it shall be for ever : nothing can be put to it, nor any thing taken from it : and God doeth it that men should fear before Him. That which hath been is now ; and that which is to be hath already been.*"

APPENDIX

NOTE A

ON THE ORIGIN OF SPECIES BY NATURAL SELECTION

I HAVE taken the liberty of expressing my admiration of Sir W. Grove's philosophical acumen in grouping together the plan and operations of nature under one felicitous term. He is, I am sure, far too candid in his address to the British Association, he has travelled over far too wide a field, and he is too conscious of the difficulties attending physical researches, not to be prepared for objections to at least some of his remarks.

He appears to have accepted the Darwinian Hypothesis as explaining the origin of that Continuity which undoubtedly exists in the natural world. I, for one, am unable to accept that Hypothesis, at all events in its length and breadth, without some reserve. As an illustration of the general nature of the objections which I entertain, I will take an instance from that branch of physics with which it is my lot to be most familiar; the Optical Structure of the Human Eye. From the cornea to the retina, the eye is an Optical Instrument. But

what an Instrument! The computation of the curves and distances of the refracting surfaces in this instrument, and the assigning of the proper law of density for the several layers in its principal lens, would require the application of a mathematical analysis, such as I hesitate not to say was never yet possessed by a human geometer. The mechanism required for instantaneously changing the forms and distances, and in one instance the magnitude, of its component parts, would require a handicraft such as never yet was possessed by a human mechanic. I say nothing of the chemistry required for the composition of the several constituent media. I presume Mr. Darwin would admit that this description is not exaggerated. Now let us attend to the process of "natural selection," by which this marvellous organ is said to have come into being. "I can see," says Mr. Darwin,¹ "no very great difficulty (not more than in the case of many other structures), in believing that natural selection has converted the simple apparatus of an optic nerve, merely coated with pigment and invested by transparent membranes, into an optical instrument as perfect as is possessed by any member of the great Articulate Class," *i.e.* as perfect as the human eye. And next comes the mode after which this simple apparatus of the coated nerve, by insensible additions gradually but *accidentally* made, is said to be converted at length into the eye of man. "We ought in imagination to take a thick layer of transparent tissue with a nerve sensitive to light beneath, and then suppose every part of this layer to be continually changing slowly in density, so as to separate into layers of different densities and thicknesses, placed

¹ *Origin of Species*, 1st edit., pp. 188, 189.

at different distances from each other, and with the surfaces of each layer slowly changing in form. Further, we must suppose that there is a power always intently watching each slightly *accidental alteration* in the transparent layers, and carefully selecting each alteration which, under varied circumstances, may, in any way, or in any degree, tend to produce a distincter image. We must suppose each new state of the instrument to be multiplied by the million, and each to be preserved till a better be produced, and then the old ones to be destroyed. Let this process go on for millions on millions of years. . . ." Now we must here ask, What is this "power always intently watching each slightly accidental alteration?" A few lines further down in Mr. Darwin's page we read: "NATURAL SELECTION will pick out with unerring skill each improvement." But what is this "Natural Selection?" We must here take Mr. Darwin's own definition: "This preservation of favourable variations, and the rejection of injurious variations, I call Natural Selection."¹

Now to me there appear three objections, which indispose me to accept the above description of the processes by which the human eye could have been formed, and I will state them as succinctly as I can. First, consistently with such knowledge of optical combinations as I happen to possess, I cannot understand how, by any series of *accidental* variations, so complicated a structure as an eye could possibly have been successively *improved*. The chances of any accidental variation in such an instrument being an *improvement* are small indeed. Suppose, for instance, one of the surfaces of

¹ *Origin of Species*, p. 81.

the crystalline lens of the eye of a creature, possessing a crystalline and cornea, to be accidentally altered, then I say, that unless the form of the other surface is simultaneously altered, in one only way out of millions of possible ways, the eye would not be optically *improved*. An alteration also in the two surfaces of the crystalline lens, whether accidental or otherwise, would involve a definite alteration in the form of the cornea, or in the distance of its surface from the centre of the crystalline lens, in order that the eye may be optically better. All these alterations must be simultaneous and definite in amount, and these definite amounts must co-exist in obedience to an extremely complicated law. To my apprehension, then, that so complex an instrument as an eye should undergo a succession of millions of *improvements*, by means of a succession of millions of *accidental* alterations, is not less improbable than if all the letters in the *Origin of Species* were placed in a box, and on being shaken and poured out millions on millions of times, they should at last come out together in the order in which they occur in that fascinating and, in general, highly philosophical work.

But my objections do not stop here. The improvement of an organ must be an improvement relative to the new circumstances by which the organ is surrounded. Suppose, then, that an eye is altered for the better in relation to one set of circumstances under which it is placed. By and by there arise a second set of circumstances, a second *environment*, as it is termed, and the eye is again, by Natural Selection, altered and improved relatively to the second set of circumstances. What is there to make the second set of circumstances such that

the second improvement (relative to them) shall be an improvement or progress *in the direction of* the ultimate goal of the human eye? Why should not the second improvement be a retrogression *away from* the ultimate organ now possessed by man, and necessary to his well-being? But all this suiting of the succession of circumstances is to go on, not once or twice, but millions on millions of times. If this be so, then not only must there be a BIAS in the order of the succession of the circumstances, or, at all events, in the vast outnumbering of the unfavourable circumstances by the favourable; but so strong a bias, as to remove the whole process from the accidental to the *intentional*. The *bias*¹ implies the existence of a Law, a Mind, a Will. The process becomes one not of Natural Selection, but of *Selection arranged by an Intelligent Will*.

In considering the state of things just described, we must also take into the account, that the successive variations of the eye are said to be *accidental*. What, then, but a *constantly exerted* Intelligent Will could cause the occurrence of new circumstances so as to meet these accidental variations, and concur ultimately to produce a certain definite result, that is to say, an instrument possessing the necessary and truly wonderful contrivances of the Human Eye? But is such a process to be called Providence, or Miracle, or the Inversion of Providence?

Further still. Mr. Darwin considers that the process of natural selection must have gone on for millions on millions of years; in order to have produced the results

¹ On this subject of bias, see a highly philosophical review of "Quetelet on Probabilities," in Sir John Herschel's *Essays*.

which surround us. It is difficult to assign any approximate limitation to the meaning of the term millions on millions of years. But in turning to page 287 of the *Origin of Species*, I find the author considers that the denudation of the Weald must have required some three hundred millions of years! This denudation is but a trivial process, indeed, compared with the mighty geological evolutions which have occurred between that denudation and the present time, and inconceivably trivial compared with other evolutions which preceded it. Mr. Darwin says, page 489, "As all the living forms of life are the lineal descendants of those which lived *long before* the Silurian epoch, we may feel certain that the ordinary succession by generation has never once been broken, and that *no cataclysm has desolated the whole world*. Hence we may look with some confidence to a *secure future of equally inappreciable length*."

If then we assign a period of one million of millions of years to have elapsed, during which natural selection has worked for the production of a human eye, we may presume we are within the limits contemplated by Mr. Darwin.

Now, I do not hesitate to say that this assumption is entirely out of harmony with the existing state of knowledge.

For during the deposition of the Silurian strata, there must have been a deep ocean, and terrestrial things were then proceeding, Mr. Darwin says, on pretty much the same quiet model as at present. But it has been rendered extremely probable by the researches of Adams, Hansen, Delaunay, Airy,¹ and some others, that owing to the combined action of the ocean and the moon, the length of the day has been, and is now, undergoing a constant increase.

¹ Add to these names, Professor G. Darwin, 1889.

On reading Mr. Darwin's enchanting volume, we seem to be, as it were, in the hands of a great magician, who leads us up and down Elysian fields, pointing out to us on this side and on that new aspects of things which, though true, were beyond the reach of our expectations ; nevertheless, when, as we hope, we are nearing the hill-top and getting a sight of the primordial genesis of organised beings, the chariot on which he has mounted us rolls down the hill like the stone of Sisyphus.

"With hands and feet struggling, he shoved the stone
Up a hill-top ; but the steep wellnigh
Vanquished, by some great force repulsed, the mass
Rushed again obstinate down to the plain.

Tall trees, fruit laden, with inflected heads
Stooped to us ; pears, pomegranates, apples bright,
The luscious figs, and unctuous olive smooth,
Which, when with sudden grasp we would have seized,
Winds whirled them high into the dusky clouds."
Odyssey, Book xi.

NOTE B

ON PRAYER

"In it did he live,
And by it did he live ; it was his life.
His mind was a thanksgiving to the power
That made him ; it was blessedness and love !"

WORDSWORTH.

Some months (1866) have now elapsed since Professor Tyndal, in the public journals, put a question regarding prayer, which at the time excited much attention and some animadversion. In reference to the propriety of

prayer to God for the removal of epidemic and other diseases, Dr. Tyndal asked whether "Prayer had proved itself a match for vaccination?" Various answers were given to this question, and to the other questions which this one essentially involves; I will now, after my manner, endeavour to give my own reply.

In one of those exquisite Dialogues which have come down to us from the wisest of the ancients for an everlasting possession, whether actually written by Plato himself or by a heathen follower matters not, Socrates is represented as meeting a great statesman in the streets of Athens, on his way to the temple of some god to pray. The nature of his errand was manifest from the chaplet which he carried in his hand, while the gravity with which he kept his eyes fixed upon the ground, indicated that the object of the vow he was about to offer was, in the statesman's thought, one of more than ordinary importance. Whether it was that Socrates well knew the restless ambition of Alcibiades (for that was the statesman's name), and therefore suspected that his friend and disciple, having some unscrupulous project on foot, was now on his way to conciliate the good-will of the god for its accomplishment, or whether the mere sight of the sacrificial chaplet alone suggested the thought, we are told that the sage immediately stopped the statesman, and, as his wont ever was, began to ply him with a string of questions, the drift of the questions now being directed to the proper objects and the propriety of prayer. "Do you think," said he, "that the gods sometimes grant and sometimes refuse our prayers? Do you see that there are very many foolish men,—some of them foolish even to madness,—and that such men

necessarily offer to the gods very foolish prayers? Do you think there is no danger, that while you ask for what you believe will be for your good, you may inadvertently be seeking for what, if granted, would be your ruin?" And then he goes on to ask him what sort of knowledge a man should properly possess before it was safe for him to pray to the gods. Should it not be the knowledge of what is *the best*? And are they many, or are they few, who possess this knowledge? And if they have not this knowledge, how do they know what they ought to pray for? Hereupon Alcibiades confesses himself perplexed, and says, "he inclines to leave the choice of blessings to the gods." Socrates then digresses to questions regarding that state of the suppliant's mind which is most agreeable to the god; and after recounting an anecdote or two, of how a certain costly and magnificent national ritual had been disregarded by the gods, while they had lent a propitious ear to a very simple prayer, he quotes a few lines from Homer, to the effect that "the gods care not for our gifts, but they do regard the state of our souls."

The sage then proceeds to tell the statesman that there was indeed one prayer which seemed to him both wise and safe; he had learned it, he says, from an old poet, who had recommended it to his friends who were praying unwisely, and it was to the following effect:—
*"Sovereign Jove, what is good for us, grant, though we ask it not; but from what is dangerous, though we ask for it, O King, deliver us!"*¹ Even to us in this nineteenth

¹ Ζεῦ βασιλεῦ τὰ μὲν ἐσθλὰ καὶ εὐχομένοις καὶ ἀνεύκτοις

Ἄμμι δίδου, τὰ δὲ δεινὰ, καὶ εὐχομένοις ἀπολέζον.

Plato, *Alcib.* ii. p. 143.

century, these are burning words, reminding us of words familiar and more burning still, and one might have supposed they would have satisfied Alcibiades. He does indeed go so far as to admit that the prayer was both wise and safe, but Alcibiades was an Athenian, and "the Greeks seek after wisdom." To them, all ignorance was, as it still is to some modern philosophers, a positive evil; and this prayer, safe as it was, seemed little better than an appeal to, or it might be even the offspring of, ignorance. Thereupon ensues a series of questions as to human ignorance, but these I omit as not being essential to our present argument; and I now come to a thought which to some of my readers will appear not alone unexpected, but even startling, as proceeding from a heathen philosopher more than two thousand years ago.

"Alcibiades, you are perplexed and even disappointed, but you must wait," said Socrates; "you must wait till there comes some one who shall be instructed how to remove this ignorance." "And when will this time come?" asks the statesman; "and who shall be my teacher?" "It is even *one who cares for you*,"¹ replies the sage; "as Homer says that Minerva removed the mist from the eyes of Diomedes,

"That he might well discern if the shape were a god or a mortal;" so must this teacher remove the mist which now envelops your mind, that you may discern what is good and what is evil, which at present, methinks, you have no power to see." "Well, then," said Alcibiades, "if only he makes me better, let him remove the mist,

¹ See Motto facing the Preface.

or whatever else it may be, and whosoever this man may be." "And he will do it," rejoins Socrates, "for it is marvellous how great is the regard he bears you." "It seems, then," concludes Alcibiades, "that till this teacher comes, I had better defer my prayer."

Such, then, was the knowledge, such were the hopes, and such was the indecision of the best-informed among the ancients, on the subject of prayer. So deep, so irrepressible, so unsatisfied, appears to have been the longing of the great thinkers of the heathen world for the advent of some teacher who should throw a light upon the relations in which men stand to the world unseen, that the thought of it, we are told, recurred to the martyr sage when there remained but an hour or two before the fatal cup was to set the seal to the sincerity of his life. But it was not now, as before, the need and the hope of a teacher who should inform him how to demean himself before the god at the time of his prayer, or even what it was safe for him to pray for, but it was now rather the utterance of the longing for a teacher who should deliver his friends,—not himself, observe, but his friends,—*from the fear of death*. It even might be that Socrates suspected the two teachers would be one and the same. "It is not ourselves," said his friend Cebes in the prison, "that are frightened, it is rather a child within us that is terrified; but, alas! now that you are about to leave us, where shall we find one who is master of a spell sufficient to remove this fear?"¹ "Greece is a wide place," replies the calm, heroic old man, "and there are many foreign nations also, and in search of this teacher we must explore many regions,

¹ Plato, *Phædo*, §§ 60, 61.

and spare neither trouble nor money in the search ; and you must search also amongst yourselves for this gift, for, perhaps, you will not easily find any one who possesses this power more than you do." And these are among the last words of the wisest of men, spoken while they who had the appointed office were even now preparing the hemlock that was to consign him to his doom.

It is here that, with a sort of passionate impatience, our thoughts glance across the breadth of but a narrow sea, from Athens and from the utterance of these dim hopes, to where the last of a long line of Hebrew prophets at that very time was speaking, as his brethren for a thousand years had spoken before him, of the advent of such a teacher, yet more than a teacher, and that with no stammering lips, but as if he were nigh at the very door. "You must search for him, you must spend your labour and your money in the search," said the dying sage, and he said it possibly from something beyond the natural convictions of his polished intellect.¹ "Behold ! He shall come, the messenger whom ye seek shall come ! the Sun of Righteousness shall arise with healing in his wings !" These were the last words of the last of the expiring race of the Hebrew Seers ; and he spoke from the inspired emotions of his heart. For four hundred years there was no more such Sage, nor for four hundred years was the voice heard of any such Prophet.

To Doctor Tyndall's question, and what it involves, the words quoted above give nearly all the answer which Natural Religion can supply. It may, however, be added that the scheme of CONTINUITY observable in nature cannot but force upon our minds the contem-

¹ Was his *Admuw* an influence from the Divine illuminating Word ?

plation of the existence of created intelligences superior to ourselves, and active with a diviner energy, in some other parts of the universe, or even close to our paths or nigh to our beds, and so onwards and onwards, until we reach the One Infinitely Intelligent and Beneficent Mind, the Lord and Creator of them all. And here, again, the scheme of CORRELATION steps in, and inasmuch as it has been shown to apply as closely to the laws of our moral nature as to the laws of our physical being, it affords to us something more than the dawn of a hope that inasmuch as there is implanted within our universal nature a principle or affection for religion, and a yearning for intercourse with some spiritual essences beyond ourselves, so there must be, in correlation to this affection and this yearning, some proper object for that affection to adore, and some spirits to reciprocate the sympathies of that yearning.

Now "in this darkness or this light of nature, call it which you please," the Christian points to that Teacher for the advent of whom the ancient sages longed. To that Divine Teacher's Word the Christian must listen, and that example which He set, the Christian must strive to follow. It is needless to say this Divine Man was pre-eminently a man of prayer; and if you ask how and for what He prayed, and what He declared was the Law of Prayer in the new kingdom which He said He came to establish, it will all be found in the records of His life, and some small portion of it has been indicated in the Address which precedes this note. The remark, however, may here be added, for it bears especially on the question before us: there once came an hour when the approach of physical suffering appalled even that Man

of Strength, and His prayer then was, that God His Father, if possible, would *remove the cup*, but if not, "THY WILL BE DONE." I could say more than this, if in reverence and propriety I dared, for I could refer to those strong, sad, mysterious cryings upon the Cross when the Teacher whom the sages unconsciously longed for, the Saviour of the World, was bruised for our iniquities, and was bearing the chastisement of our sins ; but the theme is too sacred, and our natural emotions are neither to be tempted nor trusted here.

When, then, Dr. Tyndall asks whether it is right to pray for the aversion of cholera, or of smallpox, or of physical suffering of any sort, or whether vaccination proved a match for prayer, I have given the answer, partly here, and partly in the Address.

But how know we that the Teacher has come, and that His religion comes from God ? For the learned we appeal to the testimony of history ; for the learned and unlearned alike there is this better evidence—TRY IT.¹

If it be still further urged that the scheme of nature is carried on by fixed unalterable laws, and that the storm whose cradle is in the Atlantic must spend its fury on the very spot where the laws of heat and of vapour bid it ; if it be said that the path of the cholera, the cattle plague, the smallpox, is as surely prepared beforehand and as inevitably as is the path of the electric flash—be it so ;—but whence know we that intervention is impossible ? I see at this moment a bud on one of the trees which skirt the boundary of my neighbour's land. I know that when that bud has become a branch next year it is certain from the laws of nature on what

¹ This is the practical argument somewhere proposed by Coleridge.

precise spots, and at what precise moments, the several leaves of that branch will fall. But not so; my neighbour next year may erect his haystack close by that tree, and then all is changed. But is not the whole life of man spent in contriving interventions of those consequences which would follow if the laws of nature took their own course independent of his will? By the force of the genius which the Creator has given him, does he not harness the winds and guide the lightning, and make fire, and air, and earth, and water, do the bidding of his intelligent desires? Does not the law of Continuity, then, lead us to expect that the Will of the Creator must be at least as free to intervene as is the will of the creature?

I will conclude this long note by referring to the sentiments entertained on this subject by one of the most acute and independent minds that ever existed. It is said of the great philosopher Coleridge, that in one of his youthful poems, speaking of God, he writes—

“ . . . Of whose all-seeing eye
Aught to demand were impotence of mind ! ”

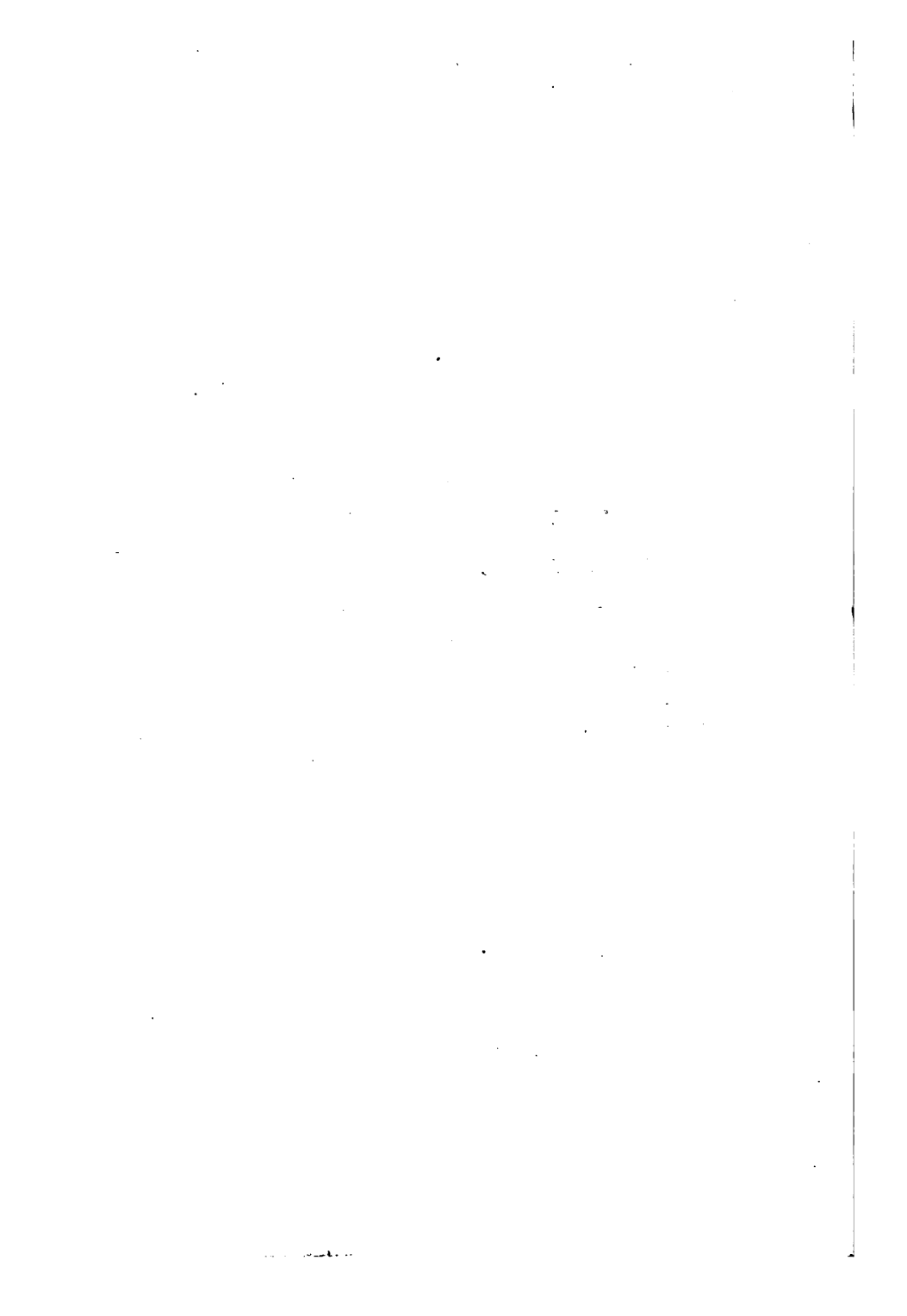
But in his maturer years he told one of his friends that he reverted to this sentiment with strong compunction. He considered that the act of praying was the very highest energy of which the human heart was capable, praying, that is, with the total concentration of the faculties; and the great mass of worldly men and of learned men he pronounced absolutely incapable of prayer. Two years before his death he said, “ Believe me, to pray with all your heart and strength, with the reason and the will, to believe vividly that God will

listen to your voice through Christ, and verily do the thing He pleaseth thereupon,—this is the last, the greatest achievement of the Christian warfare upon earth. TEACH us to pray, O Lord." And then he burst into a flood of tears.

II

THE ANALOGY OF INTELLECTUAL PROGRESS OF RELIGIOUS GROWTH

A Discourse delivered by Request in the Episcopal Church of St.
Paul, on the Occasion of the Meeting of the British Association at Dundee.



PREFACE

IN this second sermon, addressed principally to members of the British Association, I have, as in the former discourse at Nottingham, endeavoured to avoid the discussion of controverted points, whether in Physics or in Theology. The brief hour allotted to the preacher is too sacred for such topics; and there are many simple, yet far-reaching thoughts connected with our Holy Religion and our common being, which come home alike to the Philosopher and the Theologian, to the learned and to the man who is unversed in books. Hence in both the sermons I have sought rather to illustrate the analogies of Natural to Revealed Knowledge, than to reconcile any presumed discrepancies between them; and these I am convinced are rather apparent than real.

With regard to the former, that is to say the analogies, Origen¹ pointed out long ago that He

¹ Quoted by Bishop Butler, but restricted by him to its application to the analogy of difficulties.

who is the Author of Nature, and He who has revealed to man as much as it is essential for him to know of the Spiritual Creation, being one and the same, we may reasonably expect to find not only a similarity of difficulty, but a similarity also of arrangement in nature and in grace. If this be true, the well-instructed Christian will welcome every fresh accession to our knowledge of natural things, because he will expect to find something of its counterpart in the world of spirit, opened to man in the Holy Scriptures.

With regard to the other point, namely, the apparent discrepancies, another great father¹ in the Ancient Church, with a sagacity equal perhaps to that of Origen, anticipated the need, now beginning to be so closely felt, of a reconsideration, from experience, of the proper interpretation to be put upon some passages of Holy Writ, to which hitherto we may have unavoidably attached, from ignorance, a too narrow and restricted meaning. It may be that similar successive enlargements of our natural knowledge, associated with similar enlarged conceptions of the meaning of the Scriptures, will proceed together to the end of the probation of mankind; to that promised time, in fact, when "the earth shall be full of the knowledge of the Lord, as the waters cover the sea."

¹ Augustine, *Confess.*, xii, etc.

THE ANALOGY
OF INTELLECTUAL PROGRESS
TO RELIGIOUS GROWTH

“I say unto you, Unto every one which hath shall be given.”

LUKE xix. 26.

TWELVE months ago, on an occasion and before an audience similar to this, I endeavoured to show that the main principles divinely implanted in man for the maintenance and discharge of his social relations, are of a like kind with those which in the Holy Scriptures are declared necessary to save him from the consequences and the power of sin, and restore him to the favour and the image of God.

In the redemption of Mankind, for instance, by a suffering Redeemer, I there traced the highest and the noblest form,—the divine climax in fact,—of that human, friendly help, which it is necessary for one man to extend to his brother ;

sometimes in order to place him in the station that becomes him, and at other times to save him from temporal ruin : and I observed, moreover, that this friendly, necessary help is *commonly* bestowed not without great difficulty and suffering and loss to the interposer himself. The very constitution of society, in fact, is cemented and maintained by one grand scheme of Natural Mediation.

Faith, also, in a personal and ever-living Saviour, I showed was no new or mysterious principle unknown to the natural sympathies of man, but rather is the old and abiding principle of that trustfulness of one man in another, which alone gives cohesion to our daily life. It is the old principle indeed ; but then the old principle of trustfulness in man is heightened and intensified and sanctified by the Spirit of God, redirected also and applied henceforth to Him who, though now the Christian "sees Him not, yet in whom believing he rejoices with joy unspeakable and full of glory."

And, lastly, I endeavoured to show that the sanctification, the improvement of the moral character, the building up of the man within the heart, in the main through the agency of meditation and prayer, is a divine appointment, all of a piece and in continuity with that other appoint-

ment, equally divine, whereby man, through an innate principle of imitation, becomes assimilated in his moral character to those who are the objects of his habitual association and constant thought.

Thus the *Laws*—and here lay the whole scope and tenor of the discourse—thus the Laws after which we see by experience God has fashioned man's nature in relation to his social, temporal life, are in harmony and continuity with those other laws, by the operation of which Revelation declares it is God's good pleasure to fit his now sinful children for their sinless, eternal inheritance in the society of the redeemed.

The scope of my remarks to-day will, in some sense, be the supplement, and form the conclusion, of that other discourse. For I shall endeavour to show you, or to remind you, that the processes which in the Bible are declared to accompany and to promote the Christian's growth in grace and in the knowledge of Christ; the processes, that is, which accompany the development of our moral nature, are in strict analogy with those which we find accompany growth in the knowledge of the natural things around us. That is to say, I shall endeavour to show how the education of the religious principle as proposed and provided for in the Bible, is all of a piece with what experience teaches us regarding the education of the intellec-

tual faculties. In other words, the processes by which the Bible tells us a man can alone become morally good, are pretty much the same as those by which, when applied to another part of his nature, he becomes intellectually great. Both combined, render him in the language of the noblest of our poets,

“Dear to God, and famous to all ages.”

Now I cannot but think that the false and fatal prejudice, which, like the poisoned robe of Nessus, still clings to the minds of some good men, viz., the suspicion that growth in human knowledge is unfriendly to the Christian's growth in grace and in the knowledge of Christ,—I say this suspicion may be corrected or removed by the consideration of such analogies as these. For the existence of such analogies is sufficient to show that the means by which natural knowledge is to be acquired, have been as much the object of the Divine Pre-arrangement, as have been the means provided for our moral advancement. To secure to man as much of the knowledge of the divine nature and of the divine will, as his capacities admit, it has pleased God to give a Revelation contained in the pages of a Book. To secure to man the knowledge of material things, Chrysostom said long ago, with a prophetic

sagacity, "God has given the UNIVERSE in *the place of a Book.*" It is the duty of the Christian to read and to reverence each. In a like spirit, Pascal spoke as a true philosopher when he said, "Nature after all is only another form of Grace." It is the wisdom of the natural philosopher neither to ignore nor neglect the analogy.

Thoughts of this kind at the present day can scarcely be out of place before any congregation of educated Christians, but they seem to me to be unavoidably suggested by the circumstances under which we meet. For in the assemblage of educated men who now throng your city, you will find those who represent the fairest and the noblest forms of human genius. Some you will find who, by penetrating intellect, have taught us how all the glittering hosts of the starry canopy are linked in a bond of material brotherhood with one little globe which they encircle. These men have constrained the sun himself to solve the enigma of his mysterious fires by which from the beginning he has been ordained of God to arrange and uphold all terrestrial things. And at length with patient importunity the same men have compelled the moon to reveal the secrets of her devious course.

Others of them have delved into the solid earth, and there they have learned the wondrous

story how, age after age, and through myriads of ages, that earth has been clothed by a loving Creator in orderliness and beauty,¹ the creatures of His bountiful hands "taking their pastime therein," and disporting themselves each after the joy of his kind: and when successive generations of this lavish beauty and this joy of life have passed away, when these all have done their appointed office, and all is thereby prepared, then there came forth the fiat of God: "Let us make man in our own image," and "in the image of God created He him."

Others of these gifted men consume the silent hours, probing the depths of thought, and searching how to number, or to measure, or to weigh, or to compute the interactions of all things inorganic, from an atom to a sun.

And lastly, others among them, by an intuition incommunicable, seize upon the products and evolutions of the thoughts of other men, and by a strange alchemy, re-combine them in the arts and practical appliances of life. It is these men who have taught us how to baffle the winds, and the waves, and the tides, and have associated the remotest families of the earth by the winged message of a moment. Surely these are thoughts,

¹ See the Duke of Argyll's *Reign of Law*, p. 198, etc., 3d ed. A delightful book, replete with Christian philosophy.

my brethren, not unbecoming to the Christian pulpit. For these men have been ordained of God to be, in their day, the intellectual seers, and prophets,¹ and priests, and interpreters, of the wonderful works of His hands. I say, moreover, that it is by such achievements of thought, that the aspirations and pursuits of thousands of other men, less gifted than themselves, are raised above the blinding dust and the poisonous mists which beset the earth, and are carried away from the whirl of the mill, from the clang of the hammer, from the busy, anxious murmur of the Exchange, to the contemplation of the handiwork and the glory of Him, in whom we live and move and have our being.

But then the Christian philosopher knows full well, and the Christian minister must never forget to impress it upon his flock, that man cannot live in the light and by the force of the intellect alone. Within the human heart there broods an ever-busy array of appetites, passions, and affections ;² and upon these the Bible declares, and experience confirms the declaration, that there is impressed by nature and inheritance, a wrong and a very

¹ St. Paul expresses the same thought when he says, "And He Himself (Christ) gave some, Apostles : and some, Prophets, . . . for the work of the ministry."—Ephes. iv. 11.

² See Bishop Butler's *Sermons on Human Nature*, ii. iii.

sinful bias : Conscience, indeed, sits among these appetites, passions, and affections, as a judge upon his throne, and, bidden or unbidden, pronounces, as with the voice of God, his ceaseless verdicts ; but conscience has lost his power to enforce his authority. The words of St. Paul here find an echo from every man's heart : " The good that I would, that I do not, and the evil that I would not, that I do." Who of us has not felt it a thousand times ? for I speak of what we know and feel within. Who, then, or what shall rectify this evil bias ? what shall sanctify the aims and objects of these emotions of the soul ? Who or what shall restore to conscience the kingly authority which is his right ? It is not in man, nor in man's philosophy ; *that* has been tried beyond 2000 years, from Plato of ancient times to Comte of this present day ; it has been weighed in the balance and found wanting. The intellect may be able, with great eloquence, to assert the *right*, but is utterly powerless to restore the *might*, of conscience.

Now that which the powers of intellect and philosophy have failed to do, the Gospel of Christ Jesus undertakes to effect : it promises to sanctify the heart of him, who in his heart accepts the message ; it proposes to give power as well as right to the conscience, and to set the man at

peace with God and with himself. Physical knowledge has made many of the men among us useful and great; it is the power of God, as revealed in the Gospel of His Son, which alone can make all of us happy and good.

It is here that the analogy I spoke of comes in; the analogy, that is, between the processes whereby a man becomes intellectually great, and those processes whereby he becomes morally good; of course I use the terms good and great in a sense that is relative, and consistently with that lowliness and consciousness of imperfection which become alike the philosopher and the Christian. The life of each of them, moral or intellectual, is a progress and a growth; each proceeds step by step, and every step is an illustration of the text, "To him that hath shall be given:" assuredly this is the law of the kingdom of mind, and on two separate occasions it was proclaimed by its Divine Founder as the law also of the Kingdom of Grace.

For mark the commencement of the life of each; compare, that is, the first conscious introduction of the man into the kingdom of grace with the first introduction of the scholar into the fields of the knowledge of the physical creation. In the Holy Scriptures the man is said, in most expressive language, to be "born again"; the old man is said

to be put off, the new man is put on ; he who enters the kingdom must first become as a little child.

Think, then, of the young child when his consciousness first fully dawns upon him : mark his intense curiosity ; how he must needs taste, and touch, and handle all things ; observe his ceaseless activity, and the joyousness which sometimes seems to overspread his very existence ;¹ look at his first ineffectual attempts to run or to walk ; note the errors of judgment into which he falls as to the dimensions and the distances of things ; observe the wonder and the trustfulness with which he listens to those whom he loves, and his early docility towards those whom he trusts.

And now, having traced this picture in your minds, let me ask you, have I been in reality describing the feelings and early progress of the Christian when he first realises the conviction that he is a redeemed child of God ; or have I been portraying the earlier days of a man's pupilage in the knowledge of the works of the Divine Creator ? If heart answers to heart, I am quite sure that many a Christian man, and many a Christian woman, who listens to these words, can recall to memory a childhood in grace—a first conscious entrance into a filial relationship to God the Father, through the pardon and acceptance which

¹ See Wordsworth's *Ode to Immortality*.

come through Christ Jesus ; the very elements of which consisted of a childlike activity, and curiosity, and joyousness, and wonder, and trustfulness, and love ; and least of all were wanting, the errors of incipient Christian judgment.”¹

The same language also applies equally well to the true scholar on his first introduction to the School of Science ; there is the same intense curiosity, and activity, and joyousness.²

There is the same type of childhood's unbounded hope and inevitable error.

¹ I am not here intentionally touching on the ground of theological controversy. Few men will associate the name of Paley with enthusiasm or with exaggeration ; yet Paley, in speaking of religious conversion, says : “ It (conversion) is too momentous an event ever to be forgot. A man might as easily forget his escape from a shipwreck.”—Sermon vii.

² I can well remember to this hour, now after the lapse of beyond fifty years,—and what student of Nature is there who has not enjoyed a similar experience, each in his own line?—I can well remember, I say, the sensations of delight felt when for the first time I saw, through the new achromatic microscope of that day, the dust of the coal ashes under the fire-grate, revealing the coniferous markings of the pine trees of the primeval forests, the parents of that coal. And then there came Kirchoff's explanation of the dark lines in the Solar Spectrum ; and Faraday's doctrine of Electrical Induction ; and Joules's discovery of the conversion of motion into heat ; and Darwin's marvellous revelations of the relations of insects to the construction of floral organs, as given in his monographs on the Primulaceæ and the Lythrums, and in his *Fertilisation of Orchids*. And then came the disclosure of the material fabrics of the stars and of the sun's atmosphere through the spectro-scope ; and more recently still Mr. Roberts's wonderful photograph of the Nebula in Andromeda, so full of the seeds of speculation.

Truth, however, here leads me to notice for a moment an apparent exception to this analogy. For there are some highly-favoured Christians, the language of whose spirits, by the force, it may be, of holy example and early education, from their childhood has been that of Samuel, "Speak, Lord, for thy servant heareth." Like Timothy, some Lois or Eunice instilled into their dawning minds the knowledge and the love of God. In such instances, perhaps as rare as they are certainly blessed, there is no recollection of the first fervour of a new affection, but there remain the quiet habits of a pious life, which, though in truth the work of the Divine Spirit, have seemed to them to be a portion of their nature. But even here the exception to the analogy is rather apparent than real; for there are like instances where from favourable circumstances the young child has been introduced to the knowledge of the natural world about him almost with the dawn of his consciousness; and the growth of this love of natural knowledge has thus become, to *himself* at least, unobserved and inevitable.

But then this fervour of the new affection in due time subsides; its purpose was to animate the Christian with courage to combat with the early difficulties which he soon has to encounter, before experience has provided him with all the

weapons of his warfare, and has fully convinced him that the victory must be his. If the feeling continued in its first intensity, it would soon become a weakness, rather than a strength, for the Christian might then be lost in the pleasurable contemplation of his own emotions.

The earliest discipline through which the Christian is carried, in general, is the discipline of Patience, for his progress in the new, the divine life before him he soon finds is far slower than he, in his first raptures, expected ; and many are the temptations, the seductions which assail him, and, in general, many also are the moral falls from that pattern of perfect holiness which in the Gospel is set for his imitation. It is not long, also, before he feels the painful isolation from many of his old friends, who cannot understand what it is which so strangely absorbs him, and who would fain persuade him that his new life is unreasonable and profitless. It is now, indeed, that his first and his chief trials have commenced ; but if he obediently follow the Divine Hand which both points the way and confers the strength, then patience will have her perfect work ; and patience worketh experience, and experience hope ; and it is by hope, which is only another form of faith ; it is by hope that the Christian is anchored to the Rock.

Now, I say that very few of the words which thus rapidly describe the progress of the Christian in this second stage of the development of his moral being need be changed to describe the progress of the true scholar, when he has made his first advance in the school of natural knowledge. He finds the same need of the discipline of patience, the same slowness of progress ; he falls into similar errors, from whence he must painfully and manfully emerge ; he not seldom excites the same pity for his new infatuation, in those who call themselves his friends. In him also patience must have her perfect work, otherwise to him there will come no experience, and his hope will then make him ashamed.

So the life of the true student in the kingdom of nature is thus far in analogy and correlation with the life of the true disciple in the kingdom of grace : each is a progress and a growth ; each step therein is a necessary preparation for the next ; and in each is abundantly verified that cardinal law, written alike on the pages of nature and of grace,—“To him that hath shall be given.”

You will observe that I have been speaking of the true, the sincere disciples alone, whether in the School of Grace or in the School of Nature. For as there are many who, having received the seed of the divine life, allow it to be choked by the

cares of this world and the deceitfulness of riches ; or, being led away by the lust of the eye, or the lust of the flesh, or the pride of life, bring no fruit to perfection ; so there are many who linger merely on the threshold of the School of Knowledge ; pleased or amused, now and then, with the sound of the glories that are discussed within its halls, but unwilling to submit to that discipline without which progress is impossible. Such persons can rarely understand the burning of the early fervour of which I spoke as the type of the first stage of the Christian life, and can form but little notion of that discipline of patience which leads through experience to the assurance of hope, which is the type of the second.

But now come we to those gifted favoured souls, who reach the third and the maturer stage of the Christian life on the one hand, or the higher development of the intellect on the other. In either case the precious gift comes alike from God ; even from that Divine Spirit which divideth unto every man severally as He wills.

In the confirmed Christian, his aims after assimilation to the divine pattern of Christ his Saviour, his instantaneous reference of his hopes, his projects, his cares, to the will of God, have now become not so much the effects of a conscious effort, as a habit. His *life* has become a prayer

and a thanksgiving ; obedience to Him is now almost an intuition : in his glad heart,—

“ Love is an unerring light ;
He does God's will and knows it not.”

I know that these attainments in the Christian life are rare, but then they are actual ; for their possession by this regenerate heart it was, that Christ died, that Evangelists wrote, and that Apostles preached : for the birth, and sustenance, and growth of this sanctification, the Church of Christ exists in visible form, with its holy sacraments and its ordinances of grace : nay, for furtherance of our own nurture in these graces of the Spirit, are we not here met to-day ?

True, I cannot take so lofty a flight in the case of the higher and more perfected form of the human intellect ; for intellect comes not so nigh to the throne of God as love. Nevertheless, the true philosopher has his great intuitions also. He, too, sees the things around, not with the eyes of uncultured ordinary men, but in all created things around him he discerns order and law, fitnesses and adaptations, benignity and power. The ears of his spirit drink in the harmonies of nature. That which in the advanced Christian, partakes of the nature of inspiration, in the philosopher becomes discovery. There are, moreover, many qualities of the mind common to them both ;

candour, for instance, and the love of the truth ; but beyond all there is the grace of a childlike humility ; for each of them knows by what slow and painful steps he has arrived, the one at the knowledge of God and of his own heart ; the other, at a perception of the orderly adaptations of nature and the relation of things created. Each knows that his powers have been to him, from first to last, *a gift*,¹ and that being gifts, they carry with them responsibilities. Each feels in the depths of his spirit that he has not yet attained to his aspirations and his hopes, and he knows that immeasurably more lies before him than behind him. As a little child and as a learner, each entered upon his new life ; as a child and as a learner still, each knows that here he must quit it.

In thus rapidly tracing some few of the analogies between the true life spiritual and the life intellectual, it seems as if we had all along been speaking of two separate beings, but in truth we have been speaking of two phases of the life of one and the same man ; for each one of us is endowed with affections and with a mind ; to each of us God has given *a loving and a thinking power* ; though possibly these two powers are, after all, only different sides of the same thing.

¹ "'Αυτος ἔδωκεν." See the note on page 63.

There cannot then be any true, any necessary antagonism between the pursuit of knowledge and the love of God. And mark you, on whichever side that antagonism is permitted to exist, and fully up to the measure of its existence, that antagonism is artificial, and a sure sign, not of the strength, but of the essential weakness, of the love. For that love of God must be weak indeed which shuns, and is afraid of, the contemplation of God's works; and that pursuit of knowledge must be languid and unworthy of the name, which shuns and is afraid of, the knowledge of Him who created all that can be known. In this shines forth the Divine philosophy of that Holy Book, where it is written, "There is no fear in love:" "Perfect love casteth out fear."

But now, for one brief moment, let us imagine the graces of the Christian faith to be superadded by the gift of God to the graces of natural knowledge. Then all created things assume to the eyes of that man's affections a new and a holier aspect. In the plan and in the laws which bind all material things together, his soul with joy recognises the wisdom of Him who framed the plan and prescribed the law. In the varied contrivances with which all nature teems, his understanding traces with a reverential love the mind of the Divine Contriver. In the beauty and

the joy with which all animated things are redolent, he reads the tenderness and the fatherly character of the Creator,—“the very least as feeling His care, and the greatest as not exempt from His power.”

And if, in his brother man, he is compelled sometimes to acknowledge traces of an unholy, unloving spirit, then the Christian philosopher thinks not only of his own infirmities, and of that Divine grace by which they are subdued, but he looks through beyond the unholy and unloving man, at the man as the man *may* be, and as he hopes will be: he sees the man *redeemed*; the Christ within the man; he forgets the sinner, and his spirit is at peace.

Do you hesitate, and ask me for examples of this happy combination of intellectual strength with the Christian spirit? I will select then at once the brightest names in the annals of human knowledge.

In the spirit of this Law, Kepler wrote; Kepler, the first and the greatest among the pioneers of modern science. Not a few of Kepler's writings are a prayer.

In the spirit of this Law, Pascal, endowed of God with a genius second to that of no child of man, bequeathed for an everlasting possession to the Church of Christ, “THOUGHTS” which burn.

In the spirit of this Law, Newton year by year devoted a sum of money for the purchase and distribution of copies of the Bible.

In the spirit of this Law, Leibnitz, that great and subtle geometer, with a zeal and a learning unsurpassed, devoted the prime of his life to the assuaging of the fatal animosities between the Lutherans and the Romanists of his day, saying to each of them, "Sirs, ye be brethren, be at one."

Nay, did the time and propriety permit, I could remind you of the names of a host of living Christian Philosophers, whose writings would refute the weak fond calumny that the religion of the Cross of Christ has become *among them* as a fable of the past, and obsolete.

One great name, however, still remains, and with it I conclude. It *was* among the names of living men when I first was requested to prepare this address to you, it *is* now the name of one living among the blessed. It is but little for me to remind you that a greater philosopher than MICHAEL FARADAY¹ has rarely been known among us within the memory of recent times; but I am bold to add that never have we known a man who more perfectly exhibited the meekness, the peaceableness, the humility, the blamelessness of the true child of God. I am not

¹ Faraday died on Sunday, August 25th, 1867.

consciously exaggerating when I say there went forth a virtue from that Christian man, which made those who had come from his presence feel happier, and, I may venture to say, even better men. Think not I am thus striving to laud the creature. I am rather acknowledging the Creator by whose divine spirit our Faraday was made what he was.

Yet this great and good man never obtruded the strength of his faith upon those whom he publicly addressed ; upon principle he was habitually reticent on such topics, because he believed they were ill suited for the ordinary assemblages of men. Yet on more than one occasion, when he had been discoursing on some of the magnificent prearrangements of Divine Providence, so lavishly scattered in nature, I have seen him struggle to repress the emotion which was visibly striving for utterance ; and then at last, with one single far-reaching word, he would just hint at his meaning rather than express it. On such occasions he only who had ears to hear, could hear.

Yet with all this gentleness and tenderness of nature, Faraday was a man of resolute decision ; for his gentleness was not so much constitutional to the man, as it was the result of religious conviction.

For my own part, I know little that is more touching than one habit of this great and good

man's life. During the week, or a part of it, his thoughts, as you know, would be occupied in those deep investigations of nature which will make his name honoured wherever the annals of science are read : but when the week's work was done, and often when the day's work was done, he would quietly retire among a few plain, and for the most part poor Christian people, whose aim is to live after what they conceive to be the model of the primitive Apostolic church ; and there, I am told, he would open the Bible and expound the Scriptures with a benign tenderness, and childlike simplicity, and depth of personal experience, which would have astonished, had it not so gravely impressed, his hearers. Strange to say, some of the last of these loving expositions of God's Holy Word were ministered in this very town less than four years ago.¹

¹ There are one or two circumstances connected with this great and good man's later days which seem to me to be well worthy of a record. I was told that on the last occasion of his visit to his little flock of Christians in Dundee, on opening the Bible to give the usual exposition, he asked his audience to pardon him if in his quotations of the Scriptures he was inexact in his words. "You remember it was not always so," he said ; and my informant, a Deacon in the little (Sandemanian) Church, added : "And his face shone as the face of an angel."

The seeds of his approaching death were already sown.

Again. In the course of a railway journey, accompanied by a well-known friend, the latter availed himself of the opportunity to ask him what opinions he really entertained respecting a future

For MICHAEL FARADAY it were incongruous to erect a statue of marble, or of bronze. His fame is in his work. Do you, who listen, thank God who giveth such grace to man. Let us who survive him, and who knew him, let us strive by our example to hand down the image of his character to the generation that succeeds us. Suffice it to say, that in him was exhibited the truth of that Divine Philosophy of the Gospel of Christ, where it is written :

“BLESSED ARE THE MEEK : FOR THEY SHALL INHERIT
THE EARTH.

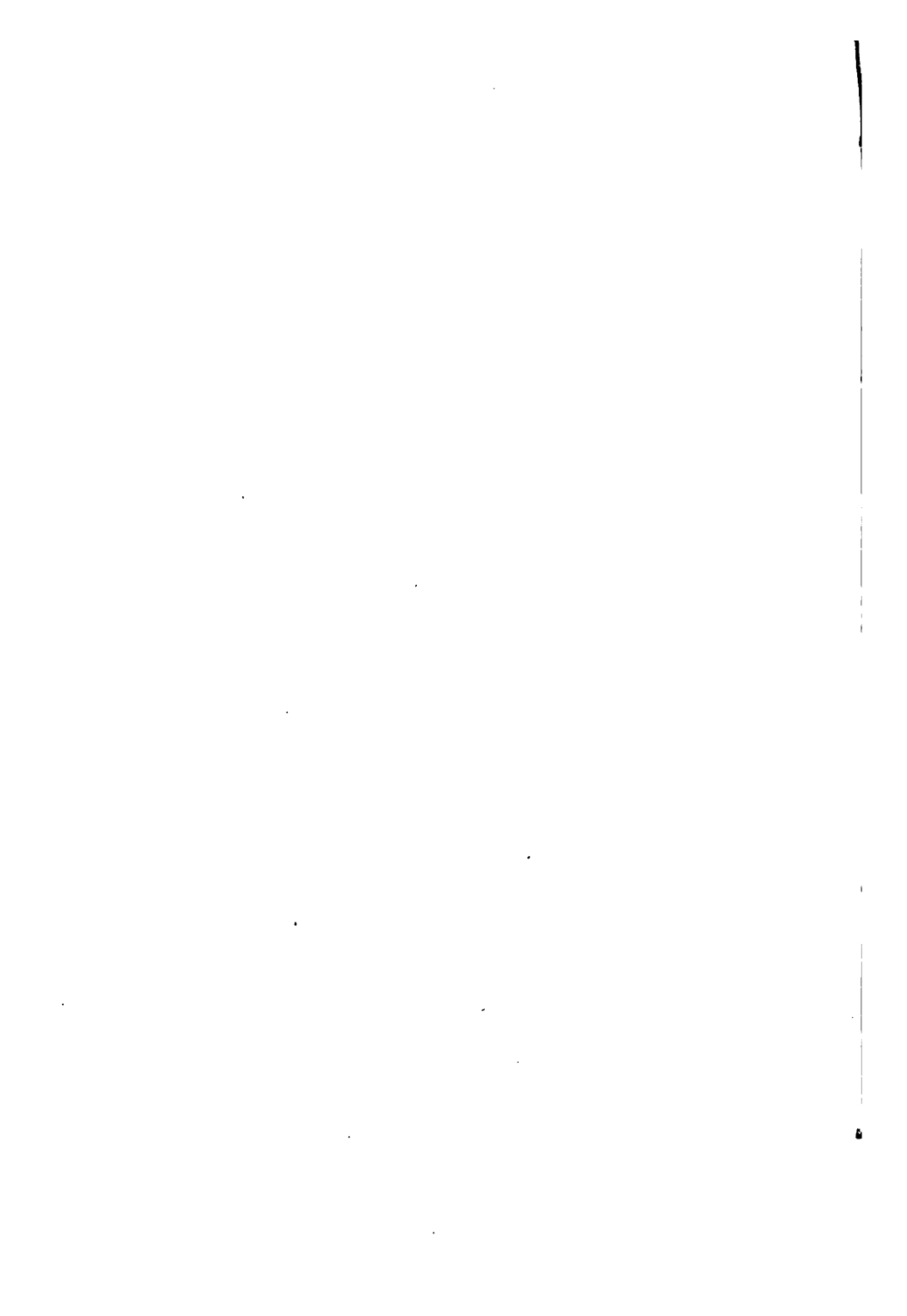
BLESSED ARE THE PURE IN HEART : FOR THEY SHALL
SEE GOD.”

life. Faraday, with that well-remembered gesture of the folded hands which, when greatly interested, he assumed, replied : “Eye hath not seen, nor hath the ear heard, nor hath it entered into the mind of man to conceive, the things that God hath prepared.”

III

THE TESTIMONY OF SCIENCE TO
THE CONTINUITY OF THE DIVINE
THOUGHT FOR MAN

A Discourse delivered by Request at the Meeting of the British
Association at Exeter in 1869



PREFACE

IT was not without great hesitation that I accepted an invitation from the proper authorities once more to preach before many of my colleagues in Science and Theology, at a meeting of the British Association. Indeed, I should have ultimately declined this difficult and responsible office, had it not so happened that the address of the eminent philosopher¹ who presided over that learned body was directed chiefly to a branch of knowledge with which it had been my official duty to become sufficiently acquainted. I availed myself, therefore, of this opportunity to show that the very recent and truly wonderful revelations of Spectrum Analysis, which formed a main current of thought at the Exeter meeting, contained, when properly interpreted, the most ancient prophecy of the Divine Mindfulness for Man. In support of this view, and throughout the

¹ Dr. Huggins, F.R.S.

greater portion of this address from the pulpit, I have assumed the truth of some Nebular Hypothesis for the formation of our Solar System. I have done so, because (1) There is an unquestionable community of elementary materials forming, alike and in the main, the photospheric atmospheres of our Sun, and the strata of our Earth; (2) Many of the Nebulæ certainly contain some, and may possibly contain all, of these elements; (3) The two Herschels have shown that celestial nebulous masses are observed in all stages of condensation, from mere vaporous whiffs to the half-consolidated forms of nebulous stars; and, lastly, Because Laplace and others have demonstrated the high probability that such masses of vapour might, consistently with the known laws impressed upon natural substances, ultimately form solid bodies similar in all essential respects to those of the Sun and its attendant planets.

These things being so, that is to say, being at least an approximately true representation of the fact, we next observe that coal and building materials, iron and the other metals, which in the remote ages of the past existed in a state of nebulous incandescence, now form the chief instruments for securing the civilisation and intellectual advancement of mankind. Here then we have at least three distinct and independent sets

of elements or factors. First, we observe an abundant supply of the materials in course of preparation throughout ages inconceivably remote ; (2) There is the present capacity of a race of intelligent beings to use these materials ; (3) An unquestionable result of their application, and of the mental efforts necessary to make that application, has been to advance that race of beings in the scale of created existences, with the prospect of a vast and still further advancement. Now, put these independent elements or concurrences together, and there arises a probability of infinity against nothing, that their co-existence is not the result of chance. Grant further, what the greatest of ancient and modern philosophers have accepted as inevitable ; grant the existence in nature of an all-pervading and powerful Will, and you have, as worked out by Spectrum Analysis, a testimony to the mindfulness of that Divine Will for man, pre-existing throughout the inconceivably remote ages of the past. This is the testimony of Science ; and, be it observed, the testimony of Science in its most recent, most unexpected, and most wonderful development.

In the Hulsean Lectures, addressed to the University of Cambridge in 1867, I have pointed out a similar prolonged prophecy in the slow deposit of those coalfields which in modern

times have played so important a part in the development of human genius, and in the civilisation of our species. I then spoke of these primeval forests as containing, implicitly, the most ancient prophecies of the Divine goodwill to man.¹ It did not then occur to me, as it well might have done, that we have a similar, but immensely antecedent, testimony to the Divine beneficence in those telescopic patches of nebulous light, which strew the heavens in a certain peculiar and orderly arrangement. The antiquity (I had almost used the word eternity) of these nebulous masses probably exceeds the antiquity of the primeval coal forests by at least as much as the latter exceed, in the order of time, those marvellous uses which they subserve for man at the present hour. I know that such comparisons of remote and protracted antiquity are vain, they exceed and evade our powers of contemplation; nevertheless we read therein what we may fairly term the Continuity of the Divine Mindfulness for Man.

A few notes have been added to this sermon. In one of them I have pointed out, so far as the space properly allowable to a publication of this nature admits, what seems to be a remarkable continuity of plan observable in the prophetic

¹ Hulsean Lectures for 1867, pp. 11-15.

portions of the Old Testament. I allude to the secondary meaning which runs throughout its prophetic and devotional utterances.¹ This secondary meaning extends from Genesis, through the Psalms, to Malachi. Their applications to the particular circumstances under which they were uttered are sufficiently clear and distinct; and yet the language in which they are couched generally overruns and exceeds the emergencies which called them forth, and finds a more entire *fulfilment* in one remote series of Messianic events, which occurred many centuries after their first enunciation. If the truth of these secondary fulfilments is logically established, running, as the original utterances do, through so many books and so many centuries, then there is evidence of the continuity of a plan and of a forethought which cannot be less than Divine. An instance of this secondary meaning occurs in connection with the Psalm from which the text of this sermon is taken. For this line of thought I am indebted to a private communication from one of our most learned prelates, Bishop Ollivant of Llandaff.

In another note,² connected with the existence of the metallic elements, such as iron, etc., in the atmospheric envelopes of our Sun, if not also in the Nebulæ, I have pointed out, what has probably

¹ Note A.

² Note B.

escaped the notice of the general reader, that the bare possibility of the modern developments of human genius and of social progress, have arisen very much from the essential characteristics of the metals, and the application of mineral fuel to their manipulation.

Throughout the many discourses, or essays, which it has been my privilege to address to learned and thoughtful men, whether in the University of Cambridge, or the British Association, or Church Congresses, it has been my aim and my hope to convince others, as I am convinced myself, that so far from the existence of a natural antagonism, there is a divine bond of correlation between the revelation of God's will, when properly interpreted, in His ancient Word, and that which (in a lower degree) is deducible from the ever-present manifestations of His ever-present works. Nature and grace, as I see them, are not in conflict, they are in continuity. They bear the impress of the same wise and beneficent forethought.

No doubt the unexampled mental activity of the present age, its rapid discoveries, its fearless questionings into the rights and relations of things, its re-examinations of principles long since believed to be settled and understood; and in the midst of all this, the unquestionable abounding of wrong,

must necessarily evoke pain and an uneasy apprehension in many pious and sensitive minds. Nevertheless, it is in this way that the great tide wave of human development is ordained to advance. For a time this process is troublesome and painful ; and as the tidal wave slowly but surely advances, some barks which rested on an insecure anchorage get adrift and are stranded ; still, it is in this way alone that the great estuaries, and creeks, and havens are filled from the ocean of truth.

I know not whether words or testimony of mine may in the slightest degree avail to check the despondency or remove the apprehension of any young clergyman who may be doubtful as to the generic tendency of scientific pursuits ; but this much I may say, that, after a life, already not a short one, spent in the study of Science and of Philosophical Divinity, and living in equal intimacy with men of science and with thoughtful divines, I have learned nothing which can reasonably disturb an impartial mind, either in its conviction of the truths of Christianity as interpreted by the more moderate sections of the Christian Church, or in its acceptance of the divine inspiration of the sacred Scriptures, not indeed as literal or punctual, but as generic and substantial. I am equally assured that the general development of human knowledge is friendly to these convictions.

PSALMS VIII AND XIX

“When I consider Thy heavens, the work of Thy fingers ; the moon and the stars, which Thou hast ordained ; What is man, that Thou art mindful of him ? and the son of man, that Thou visitest him ? . . . There is neither speech nor language, but their voices are heard among them.”

IT is now three thousand years ago that a young shepherd, tending his sheep by night on the hills of an obscure village in one of the most secluded corners of the earth, moved by a divine impulse, burst forth into a hymn of praise, which has become the common inheritance of pious hearts ever since. The canopy of heaven lay stretched above him like a curtain studded with spangles of light ; and as the bright stars came out one after another in that eastern sky, with a brilliancy and a splendour almost unimaginable to ourselves, his mind glanced upwards, through and beyond these lights, to the throne of the great God of his fathers ; to Jehovah, of whose glory those stars were the heralds and the types. High above the

rest of God's magnificent creation, these hosts of heaven moved onwards in their stately march, silent and speechless ; but within his own well-tutored spirit (for God was his teacher) there is the whisper of a still small voice :

"JEHOVAH our Lord, how excellent is Thy name in all the earth,
Who hast set Thy glory above the heavens !"

And the reply of his own lips is in unison,—

"When I see Thy heavens, the work of Thy fingers,
The moon and the stars which Thou hast ordained ;
What is man, that Thou art mindful of him,
And the son of man, that Thou visitest him ?
That having made him a little lower than God,¹
Thou crownest him with glory and honour ?"

Now many of us must have often put to ourselves the question, what did the inspired poet mean by those happily familiar but memorable words of his, *What is man ?* Most interpreters, perhaps all the ancient ones, have considered that the insignificance of man is the thought uppermost in the Psalmist's mind. I have long believed, and I still venture to believe, the reverse. The insignificance of man may, for an instant, have naturally occurred to the Psalmist's mind, as he mused in the lonely watches of the night, and in the midst of the grandeur around him ; but the thought would be chased away, soon as it was conceived. These stars, and yon stately moon,

¹ Dean Perowne on the Psalms. (See Note C.)

are glorious indeed ; glorious also and vast are all those other works of Jehovah's hands, which they illumine and surround ; and yet, insignificant as he seems at the first, how much more glorious must Man in reality be, to whom is consigned the dominion over them all, and who was created only a little lower than God !

“Thou madest him a little lower than God ;
 Thou crownest him with glory and honour.
 Thou makest him to have dominion over the works
 of Thy hands ;
 Thou hast put all things under his feet.”

Such, we are persuaded, is at least an approximation to the feelings of the inspired man, when he breathed forth this hymn of surpassing beauty. Three thousand years, as we have said, have rolled away since David thus mused on the hills of Bethlehem. He knew little or nothing of what those stars were, beyond this, that they were the creations of the hand of his fathers' God ; nevertheless, the prophetic intuitions of his mind suggested to him that, in some way or other, they told a tale of the greatness of man. Since his day, other prophets have arisen ; *Prophets of Nature*, expounders of the works of God, men inspired, we doubt not, like Bezaleel, with a lofty genius, and gifted with patience to apply it ; and these have disclosed to us many a wonder in those stars, such as poets in their wildest fancies never

dreamed of: and that, too, by methods, and with a precision, not less wonderful than the facts in the discoveries themselves. These suns, which by their distance and their brightness seem to defy the access of all human cognisance, have yielded to the eye and the questionings of science, properly directed, strong and unmistakable evidence that they were, from the very first, created as parts of a divine, magnificent plan, intended in the fulness of time to subserve the wellbeing of intelligent creatures. Among the myriads of other suns, our own sun, if we interpret his parable aright, was formed with the original but far distant intention of not merely sustaining the physical life of an endless variety of animated beings, but especially to be the means of developing the intellectual, and to some extent the moral, qualities of a being such as man; to bring him, in fact, nigher and nigher to the Universal Father, who has endued him with the intellectual capacity of understanding his works, and with the higher capacity of holding communion with the Spirit of Him, who breathed into his soul the breath of an endless life. This, then, is our subject: it is a glance upwards, from the Creator's works to the loving discernment of some little portion of the Creator's plan and the Creator's will.

But a thesis such as this; the original and

necessary connection, that is, of the stars and our sun, with the development of the intellectual and moral faculties of man, may seem strange at its first enunciation, and may possibly be received with the hesitation of some doubt. Nevertheless, I feel assured that you will, in the sequel, come to pretty much the same conclusion as myself, that this is the true interpretation of the newly-learned language of the heavens, and the legitimate conclusion to which we are brought by the contemplation of many of those arrangements in Nature with which we are familiar : they are parts of a divine plan to bring us nearer and nearer to God.

It may indeed be, that to the sensibilities of some Christian minds such a thesis as this may also seem for a moment to jar with the thought of that humility which befits creatures like ourselves, in our present confessedly low and fallen estate ; and there may be a pre-conception that it is not compatible with those revealed and higher methods by which man is to be brought into communion with the Spirit of his Maker : but we must not forget that the Creator works by a multiplicity of means ; and we can gradually learn His will, only by taking into true account all the phenomena with which He surrounds us, the revelations in His written word being the greatest

and the most necessary among them. Humility also shines the most brightly when she walks at the side of her sister, Hope, and in the consciousness of the possession of faculties yet to be developed.

I doubt not that with myself you have often read some such language as the following, falling from the pens of pious but (as I think) mistaken writers:—"Man finds himself placed on a little planet, whose comparative insignificance is such, that were it struck from the face of creation, its fate would be like that of a falling star, which loses itself in the heavens and is remembered no more. And as to himself, what an atom is he! *What an atom is he!* How humbling and appalling is the thought!"¹ Now I, for one, confess to little sympathy with any such thought. For this thought does not seem to be language applicable to an immortal spirit, for which the Son of God became incarnate, and for which Christ died: it has nothing in common with a redeemed and immortal spirit, capable of *communion with the Supreme*. Surely nothing is intrinsically little, which is capable of great conceptions; nor can any spirit be intrinsically ignoble, which is capable, like man's, of noble aspirations. There is a sense in which even the highest philosophy is the philosophy of hope.

¹ *Sacred Philosophy of the Seasons*, by Dr. Duncan.

I said that our present subject was not so much the revelation of the glory of God displayed by the stars, as the intimation of a portion of His will and of the unity of His plan, to be gathered thence by those who have the heart and the diligence to decipher their language. But herein I fear I must ask you, for a few minutes, to avail yourselves of that curious faculty, God's gift to you, by which you throw your thoughts backward to the ages before the genesis of the stars themselves. I must ask you to contemplate in your imagination one of those seemingly little nebulous patches of dim, icy light, which the eye of science is permitted to observe scattered hither and thither, though not in disorder, amidst the heavens. I say nothing of their distance, it is at present by us immeasurable: I can give you no account of the vast extent of their diffusion, to us at present it is inconceivable. Icy enough these patches seem in their pale, fleecy light, but modern thought traces therein masses of *metallic vapour* glowing with a heat and a light, defying perhaps the power of man, even in all his dominion over the elements of nature, to evoke or to imitate.¹ They are not stars as yet, nor systems of stars: they are rather the birth spots and the material for

¹ Since this was written, Mr. Lockyer believes these nebulous lights are due to the collisions of meteors, evolving thereby a heat not exceeding that of a Bunsen flame.

They are such as our own sun and
and once were, in the womb of time.
Many of you, heard from the gifted
chily presides over the Association
in your city, that amidst such or
of celestial vapour, you have the
traces of the presence of just those
substances which to human cognisance
are the most familiar, such as hydrogen, and
nitrogen, and carbon, and iron, and lime. I
hesitate not to use terms so unwonted in this
sacred place, and on this the best day of all the
seven; for are they not all the creations of our
great Father's hands? are they not the indications
of our Father's mind; revelations accorded to
the patient study of our Father's works? But it
is not now the mere *existence* of substances so
familiar, in those remote regions of, to us, a
boundless space, which once we little supposed we
were endowed of God with faculties to pierce;
it is not, I say, their mere *existence* that I ask you
to observe, but rather I wish you to note the fact
that these are just the very elements which are
ordained for the construction of an animal frame,
and just the very elements which are essential to
clothe and to sustain it. What is far more to our
present purpose, I see in such nebulous patches of
inconceivably distant light, the genesis of that

iron and of those minerals and elements which, in the case of our own planet, are at this moment wisely and beneficently *taxing and straining* the powers of *the human mind*, and by *this taxing and straining*, are *ordained to develop and improve them*.

The time and the place properly restrain me from speaking at any length regarding the majestic evolutions of these glowing vapours, whereby, as they revolved, they successively threw off mass after mass, which, on slowly cooling, consolidated into planets like the firm globe on which we stand, leaving the far larger and central mass to give light, and warmth, and vitality to the worlds thus ordained to nestle and circulate around it. It is true that no astronomer as yet has seen any one of these hot flocculent masses of vapour actually passing through its various stages of evolution:¹ for this is the result of ages upon ages of time, beyond human conception; but we have seen, and we may still see, many of them in different stages of their progress to a more consolidated form. Sir William Herschel, who, by his sagacity and indomitable patience, first brought these mighty operations in the skies within human cognisance, observed, in the spirit of a true philosophy, that

¹ Mr. Lockyer believes he can trace this growth of condensation in the spectra of the stars themselves.

it can make no real difference in our conception of the growth of a particular tree, whether we saw that one tree actually growing under our eyes, or at several times saw different trees of the same kind in various stages of their growth. So it is that we can see and can delineate at the present hour many nebulae in apparently various stages of condensation into a sun ; nay, it was but a day or two ago that intelligence came among yourselves how there is decisive evidence that at least one of these vaporous masses has changed its form within the lifetime of a single observer. No doubt you will hear from high authority to-morrow how we can daily see the mighty seethings and gigantic contortions of the glowing vapours of our own sun.

Such, we are persuaded, is the true interpretation of those words of surpassing sublimity with which the inspired records of God's grace to man commence : "In the beginning God created the heavens and the earth, and the earth was without form and void." But it is not even from this point of view that I wish to present the subject before you ; I rather wish you to regard this wonderful evolution of the worlds (creation you may call it, if you please). I wish you to regard this mighty evolution as a magnificent prolepsis of the Divine intention ; I wish you to recognise therein the *earliest prophecy* of a portion,

at least, of the plan and the will of the Supreme Creator. I look into the vista of the ages that are past, and I read in this evolution of our world, a beneficent intention that, in the slow fulness of time, an intelligent being such as man should there find a habitation fitted by the Divine hand for his abode and for his development.

His Creator gives *not* to him, as with a lavish hand He gives to His lower creatures, beautiful habitations to live in, constructed by no skilful prescience of their own ; He gives not to *man*, as He gives to them and to the lilies of the field, a beautiful array to clothe them, the product of no toil of theirs, and spun by no loom of their own contrivance ; but the bright revolving worlds above tell us, that in the ages past God by the fiat of His word stored away for man materials wherewith to build mansions for himself, materials wherewith to spin clothing for his body, and the elements from whence, at the bidding of his own volition, he shall procure the bread that strengthens, and the wine that cheers him.

But more than this, and, be it remembered, quite independent of these material stores, God has also given His responsible creature a capacity to build and to spin ; better still, He has given him a capacity to discern the mind, and a *command* to love the Fatherly Spirit, of the Omnipotent

Giver. And when I see the palaces and the sacred temples, pyramids and iron roads, canals and docks, steam hammers and hydraulic cranes, the products of man's constructive art ; when I see the tissues of his loom vying with the gossamer's web, and the colours of his chemistry emulating the tints of the setting sun ; then so far from the shadow of pride obscuring my spirit, or the foot of pride misleading my steps, my mind glances through and beyond the genius of God's gifted creatures, far away to the throne of the Father and the Creator, who, ages upon ages ago, was providing for His child all things richly to enjoy, and then ultimately inspired him with powers and capacities which, just in proportion as he applies them, improve and improve, and bring him nigher and nigher to the Divine.

And if, again, it has been said in no reverent spirit, that it is not so much the glory of God as the glory of a Newton and a Herschel which is now displayed in the heavens, then I accept with gratitude the saying, so far as the glory of the creature is concerned ; but my spirit soon glances away to that Eternal Mind, the mere fragments of whose thoughts comprise and contain all that ever has been, or ever can be, reflected from the mind of the created.

Thus the most recent and the most remarkable

acquisition that has been made in modern times to our knowledge of the sidereal heavens, leads to a fresh and I may say to an unexpected discernment of the remoteness and continuity of the Divine plan. We see how in the wonderful evolutions by which it is God's will that the worlds are formed, there has been slowly laid up a rich store of materials for the future uses of an intelligent and responsible inhabitant. But it is at the same time ordained that he shall draw forth these rich materials not without the sweat of his brow ; nor appropriate them to his purposes apart from the diligent and toilsome exertion of his inventive powers. In this way man is by labour ordained to subdue the earth ; and better than that, by diligent exertion in the midst of difficulty, he is ordained to improve and exalt his powers, and transmit them to his posterity thus improved. I know not where this onward progress is to stop, short of an approach to the mind of the Supreme.

And just so it is with the higher faculties of the soul of man, with the affections of his heart ; these can only be matured and grow up to their perfection in the image of Christ, through the discipline of many a struggle, and the schooling of many a grief : the path of trial and trouble is, I will not say the only path, but it is surely the ordinary path, by which a man becomes acquainted

with God, or acquainted with himself. We sometimes wonder why a benevolent Father and Creator permits difficulty, and suffering, and slow decay, to form so large a portion of the lot of his creatures ; but constituted, as we are, with imperfect though improvable faculties and affections, it would be still harder to see how it could have been otherwise with us, consistently with our moral advancement.¹ For it is a matter of experience that the world's noblest and most enduring lessons, its brightest and most effectual examples, come to us, for the most part, through hardship and pain ; and it is difficult to see what scope there would be for the exercise and development of the finest of human qualities, such as patience, and sympathy, and bravery, and magnanimity and forbearance, if there were no wrongs to remove or to endure, and no sufferings to assuage. Love has many other phases besides joy ; and wisdom has many other objects to provide for, besides a painless existence. It is said of the greatest and best man this earth has ever seen, the Divine Man, that He was a man of sorrows and acquainted with grief ; and a similar measure must be meted out to his disciples, for they too, like their Master, can only be made perfect by the things which they suffer.

¹ See Professor Jellett's *Sermons on Old Testament Difficulties*.

So then there is one and the same law ordained for the sanctification of our affections, and for the development of our mental powers ; the law of difficulty, and struggle, and trial. And these, to the conception of the Christian, these are the voices that are heard among the stars, "whose sound is gone out into all lands, and their words unto the ends of the world."

"Jehovah our Lord !

When I see Thy heavens, the work of Thy hands,
The moon and the stars which Thou hast ordained,
What is man, that Thou art mindful of him,
And the son of man, that Thou so visitest him ! "

We began with the young shepherd visited by the Spirit of the Lord as he mused by night on the hills of Bethlehem. The Christian's thoughts glance along a thousand years, and again rest upon the same hills : but the hills and the shepherds are now surrounded by a greater glory than the splendour of the stars, and they hear the sound of celestial voices more articulate than theirs ; nevertheless "Man" is again the theme ; man in his redemption—the Manhood taken into God. For suddenly upon those hills there was a multitude of the heavenly host praising God, and saying, "Glory to God in the highest, and on earth peace, goodwill to man." For unto them and unto all God's children throughout the

world, there was that day born in the city of David a Saviour, which is Christ the Lord. Thus, we are naturally brought, at the close of our meditations, whither the Christian is so often brought at the close of his own, to the thought of the Incarnation of the Son of God; to that solemn, *fateful* event when the manhood was taken into God. I call it fateful, for the Incarnation is the one central point of all human history; the one central light which alone illuminates the hopes and the dignity of the human race. It is thither that the Christian turns in his trials, in his struggles, and even in his aspirations and his joys. He seeks to solve their meaning, but it is "too hard" for him, until he reads them in the light which shines from the lowly manger where the Divine Child lay: it is there, and there only, that he understands "*the whence*" and "*the whither* of his being;" whence he came, what he is, and whither he is going: it is there that he finds the remedy that strengthens his weakness, the medicine that removes his sin, the food that sustains his hopes.

It is alone in the light which streams from Bethlehem, that he can discern who and what that mysterious Man was, who in the streets of Jerusalem, and in the villages of Galilee, went about doing good, as no man had ever done

before: intensely human, yet perfectly Divine. It is in this light alone that he understands the words of that Divine Man, who in the courts of the Temple spake as no man ever spake before. It is alone in the light of the Incarnation that he unravels those mysterious words, "I am the Resurrection and the Life," wherewith are consoled not alone the sisters at Bethany, but all Christian mourners scattered throughout the earth, and as long as death shall reign upon this fallen world. It is alone by the light which streams from Bethlehem, that the Christian deciphers the kingly inscription on the Cross at Calvary. Henceforth what a flood of light flows over the present and the future life of Christ's redeemed! What a pregnant reality shines through all those invitations to a perfect life in this world, and over those promises of glory in a world to come! For there is henceforth established a brotherhood between the human and the Divine. Herein, then, we see the Divine origin of those passionate yearnings, those "obstinate questionings" which beset the soul: they are the manifestations of the manhood already taken into God; they are the correlatives here of the higher life which awaits him hereafter; they are links in the continuity of the human with the Divine. It is hither, also, that we trace the source of those wonderful hopes of illimitable

progress held out to the true followers of Christ, which no created being could venture to appropriate, did they not abound in the language of the Scriptures, warranted and explained by the fact of the Incarnation of the Son of God. "Be ye perfect, even as your Father which is in heaven is perfect:" this is the language of Christ himself; and the words of His Apostles are like to it: "partakers of the Divine Nature;" "growing up into the measure of the stature of the fulness of Christ;" "filled with all the fulness of God."

So then, the light of modern discovery conspires with the inspiration of the ancient word, to illuminate the origin, the progress, and the destiny of man. Each of them points to a continuity of the Divine Thought on his behalf. That Divine Thought was manifested in the ages of eternity when the heavens and the earth were prophetic vaporous whiffs, without form and void; it accompanied the dispensations of history; it culminated in the promise of a new heaven and a new earth, the abode of holiness and peace, where the man, redeemed by the blood, sanctified by the Spirit, and clothed in the righteousness of Christ, shall grow up into the likeness of God. "THOU MADEST HIM A LITTLE LOWER THAN GOD, THOU CROWNED HIM WITH GLORY AND HONOUR."

NOTES

A (Page 87)

ON THE CONTINUITY OF THE METHOD OF PROPHECY

It has long been remarked that a secondary sense pervades the prophetical portions of the sacred Scriptures. It appears to run through them systematically. As surely as a crisis of difficulty or sorrow befalls the Church of God during two thousand years, so surely there comes to it a divine communication to lighten its troubles or direct its counsels; and not only so, but the terms in which the message is conveyed greatly over-reach the temporary difficulties of the crisis itself. The language looks through and beyond the crisis, to some greater and higher form of deliverance yet to come. Thus the *method* of the prophecy, as distinct from its subject, is characteristic and continuous.

The Bible opens with an instance of the sort, in the promised victory of the seed of the woman over the serpent who had beguiled her, and the same principle recurs repeatedly in the history of Abraham and his

immediate descendants. The Psalms especially abound with expressions having a secondary meaning, for while the sacred poetry seems to flow spontaneously from the innermost consciousness of the writer, and while it embraces, and sincerely expresses, the actual emotions of his spirit at the moment, nevertheless, it not seldom overruns the circumstances of his actual condition, and requires some special interpretation, which, at the moment of utterance, must have been obscure. It is here unnecessary to select specific instances of this secondary meaning; they will naturally suggest themselves in sufficient abundance to the reader's memory. There is, however, one of them, which, though it is far from possessing any crucial importance, nevertheless is not without its own interest here, from its connection with the text of the sermon. "Thou hast put all things under his feet" is the language of David in the sixth verse; and when he adds, "All sheep and oxen, yea, and the beasts of the field," it becomes sufficiently apparent that while he contemplated the power of man over the greater physical strength of many of the animals, we may be assured that he especially thought also of his own conflict with the lion and the bear, the memory of which also occurred to him in the most dangerous crisis of his life, while standing before the Philistine giant. The truth of his words was, and still is, exemplified, no doubt, in man's general dominion over nature even in that day, and still more so in his control over the forces of nature in the present age; but the words themselves receive their full and intense accomplishment, they are alone *fulfilled* in the case of Him who took the manhood into God, who has put, or who will put, sin, and death, and hell, under

his feet, and who reigns supreme over the hearts of his redeemed and sanctified people.

A similar thread, but one of a more decided colour, runs throughout the prophetic books of the Old Testament, and will be found, as a characteristic feature, in by far the greater part of the Messianic predictions.

If this be true ; if this principle, at once remarkable and unique, can be traced throughout a long series of writings, then we have therein a continuity of *prophetic method*, which, considering that it prevails through many centuries, and is a characteristic form of utterance by so many prophets in widely distinct ages and conditions of the Church of God, can be indicative of an origin nothing short of Divine. This continuity of an unique *method*, be it observed, is entirely distinct from the continuity of prophecy itself as directed, in the main, to the one great event of the Messianic advent ; it is entirely distinct also from a continuity of type, and equally so from any method of mere accommodation of language adopted at the natural suggestion of the writer who cites a quotation.

No doubt the utterances of natural genius often transcend the circumstances which give them birth ; no doubt they sometimes possess a proleptic capacity, and are, in a certain sense, prophetic ; for in the utterance, the fire of genius within, strives to embody feelings and intuitions which are too great for the language of the hour, and so the burning apothegm springs forth and lives in the memories and experience of men as an everlasting possession. But no amount of natural genius, no amount of the quickening of intellectual or emotional endowments, can account for a long series of utterances, by men of different habits, in different ages, and in different grades of

society, such that, *while they adequately embrace and express the junctures and troubles of their own day*, converge onwards to one single, distant event in the world's history, of which the world's history hitherto had afforded neither presentiment nor parallel. There is a Divine Continuity in the Prophetic *Method* of the sacred Scriptures.

It may be interesting here to make a passing remark on another characteristic mark of continuity, which attaches to all the prophetic writings throughout the Scriptures. It was (I believe) first observed by Isaac Taylor, in his charming work on the *Spirit of the Hebrew Poetry*, and to that publication the reader is referred for the fuller exposition of a subject which cannot be entirely grasped in the brief space allowable to a note. I may be permitted to call it the Continuity of Individuality in the prophetic utterances.

These utterances came to the people of God through the agency of a succession of speakers, of every conceivable variety of natural temper and social position, from the herdsman to the king, from the warrior to the minister of religion ; they came to the people of God at various intervals, through a thousand years, in all conceivable varieties of national fortune ; and yet, no sooner do we read "Thus saith the Lord," than the *personal individuality* of the Divine Speaker becomes at once apparent. "This consistency" (writes Isaac Taylor), "this exemption from the variableness that attaches always and everywhere else, to whatever is human, is utterly inconceivable until, for its explanation, we bring in the one truth that, whoever might be the prophet

that challenges the people to a hearing, the *SPEAKER* is ever the same: the same in mind and purpose, through a thousand generations. Century after century, through all the shiftings of a people's weal, and of their correspondence with their neighbours, God, their God, thus utters His mind. Nothing approaching to this vivid revelation, this bringing the conception of the Person home to the consciousness of men, has elsewhere ever taken place; it is the peculiarity of the Hebrew Scriptures." It is (let us speak with all reverence) the Continuity of the Divine Individuality.

B

With reference to the influence which the greatly extended manufacture of the metals has had upon the general progress of the age, I have expressed my conviction that the *Nebulæ* present to us traces of an original design for the future development of the intelligence of a responsible creature. Nor is it difficult to establish the proposition. For let us consider what it is which has served in modern times, and which still serves so greatly to develop and expand the intellect of man. What is it that constitutes the strong line of demarcation which distinguishes modern from ancient thought? Wherein, and by what means, are the men of these later centuries superior in knowledge, and in mental and material power, to the men of twenty centuries ago? We are much mistaken if the prophetic elements of this advance in knowledge and power, are not at this present hour discernible in those patches of telescopic light of which we have already said so much.

"For let us go back a little, and let us rapidly consider for a moment the state of human knowledge before the Christian era ; and, omitting the vast and persistent light shed over almost all the regions of human thought by Christianity itself, let us extend the date to within two or three centuries of our own day. The old Greek philosopher, by the time of Aristotle more than twenty centuries ago, seems to have exhausted such powers as he then possessed for the contemplation of the structure of his own mind, and for inquiry into the principles of his moral nature. He had, indeed, groped his way to the conviction of the existence of a Supreme Being, and to the high probability of his own immortality : to a select few this future existence had become a hope, but to none was it a principle of action or a guide of life. The sciences of morals and of mind had evidently arrived at their limits for the time. In statuary and architecture the great artists of Greece have bequeathed to posterity their models, which, as yet, their successors have rarely equalled, and have never surpassed. In the structure of a perfect language the writers of Greece have found no equals, and in sweetness and gravity of diction Plato has found no rival. In sublimity and pathos no poems have greatly, if at all, surpassed the *Iliad* or the Athenian drama. In pure geometry, until lately, there has been little advance beyond the school of Alexandria ; and in arithmetic, although the device of the Arabic notation afforded wonderful facilities for computation, there existed comparatively little that it was worth while to compute. The advance of human knowledge seems, in fact, to have come nearly to a standstill by the century which proceeded Newton. What was it then

that gave the new impetus by which we moderns so greatly profit? It was not mainly any new methods of learning so strongly urged and so clearly set forth by Bacon, for his methods had already been the only methods by which all true knowledge had been heretofore acquired. Nor was it subsequently even the new philosophy, or the new geometry, or the new discoveries of Newton, that alone and of themselves laid the secure foundation of modern progress, for it is well known that Newton withheld his discovery of gravitation because its results did not square—as square they could not—with the erroneous measurements which then existed of the dimensions of the earth and of its distance from the moon. No, strange to say, it was not so much the philosophy of Bacon or the discoveries of Newton which gave a successful impulse to the new inquiries and to the advance of learning. They came rather from improvements in the art of working in metal, and from that of devising and constructing instruments of precision formed of metal. It was the metallic measuring-rod and the metallic quadrant that set men thinking, and which enabled them to verify or to discard their thoughts. It was better measuring-rods, and better quadrants, and better telescopes, which encouraged Newton to pursue his immortal studies. New instruments in metal, better devised and better graduated, led to better observations, and these again involved the necessity of fresh calculations and of more extended and more accurate methods of mathematical research. And, just as at the present day there is a contest between instruments of destruction and material arrangements for a secure resistance, so, to the great advantage and the furtherance of knowledge

there has been since the days of Newton a ceaseless contest, with alternate victories, between the instruments of observation and the methods of numerical research. So it is ultimately mind and metal that are ordained to subdue the earth, and make the elements and the forces of Nature subservient to the intelligence and the will of man. But this mind is the breath of God, and these metals, as we have seen, were, in the far vista of the ages past, stored away by his loving prescience in nebulae or meteoric swarms till, in the fulness of time, they were evolved into forms and conditions adapted for the use of man.

We may form some clearer and more enlarged conception of the manner and the extent to which inventions connected with the working of the metals react upon the intellectual powers, encouraging, corroborating, and fitting them for new and higher efforts, if we pause a little, and, by way of example, take a rapid survey of what was implied in the laying of the electric telegraph across the bottom of the Atlantic Ocean. In the first instance, there was the mechanical skill brought to bear upon the building of the iron ship. Its unprecedented dimensions, its form, its materials, demanded new inventions, or new adaptations of old processes, at almost every step in the progress of its construction. A host of mechanics, amateurs, and lookers-on, throughout the length and breadth of the land, taxed and evoked the powers of their minds as they either engaged in the actual work or mused upon or discussed its difficulties and its progress. It is impossible to estimate the magnitude of the intellectual results arising from this condition of widely spread and active thought. It reminds us of

the fact that, although the calculating machine of Mr. Babbage¹ has not yet been fully brought to a practical issue, nevertheless the number of highly skilled and intelligent workmen it has served to educate is well known to have effected a very sensible improvement in the manufacture of instruments of most delicate research: the astronomer, the chemist, the student in physics, are reaping at the present hour, and often consciously, the benefits arising from the experience and the skill which have been the results of their assisting Mr. Babbage in his efforts. It may even be the case that these indirect and collateral results have conferred upon science and on human intelligence far greater benefits than any that could have accrued from the mere completion and applications of the machine itself.

Nor is the influence of the mechanical applications of the metals confined alone to the upper and more highly educated stratum of society, or to the intellectual faculties of the inventors themselves, but it reaches to that other and far more numerous body whose intelligence or whose emulation is stimulated by the sight of the new inventions. The presence of a steam plough or a steam thrashing-machine in a rural district quickens the apprehensions of large masses of the population, whose minds would otherwise remain at the level of

¹ There was a saying very prevalent about the time when Mr. Babbage had just completed his first attempts at a calculating engine, which, inasmuch as it refers to a general and comprehensive principle, is worth handing down to posterity. Mr. Babbage ultimately failed in his main enterprise; but results followed even greater than success. He was assisted by a clever mechanic named Clements, and Clements again was assisted by Whitworth. It was a saying of the day: "Babbage made Clements, Clements made Whitworth, and Whitworth made the Tools."

stagnation. A new implement of agriculture excites the curiosity and the questionings of a whole parish. The sight of a steam hammer or a steam crane inevitably exalts our conception of the power of man's genius over brute and apparently unmanageable matter. The sight of an electric telegraph reminds even the villager, of the victory of genius over time and space.

What has here been adduced regarding the influence of the application of materials, pre-existing in the nebulous elements of the world, to the arts of life, applies just as much to the education of the ancient as it does to that of the modern world. Who can tell what mighty influences for good emanated from the construction of such a building as Milan Cathedral, or the Duomo and its Baptistery at Florence, or the Parthenon? Yet the elements from which these magnificent structures were built, pre-existed in the ages of an eternity; and since then they passed through the tissues and the organisms of creatures enjoying the happiness of life, long before they exercised the genius of the architects who devised them or the admiration of the millions who have beheld them.

It is to thoughts and results not distantly related to these that the greatest of ancient statesmen alludes, when he counsels his audience, the Athenian people, to take a practical survey (*ἐργῶ θεωμένοι*)¹ of the glories of their city, if they would understand by what sort of education their ancestors had achieved for them the unequalled institutions and the renown of their polity. Arnold never wrote truer or more burning words than in his paraphrase of this noble passage of the Greek historian :

¹ Thucyd., lib. ii. 43.

“Look at our temples, and the statues which embellish them ; go down to Piræus, observe the long walls, visit the arsenals and the docks of our three hundred ships : frequent our theatres, and appreciate the surpassing excellence of our poets, and the taste and splendour of our scenic representations ; walk through the markets, observe them filled with the productions of every part of the world ; and listen to the sounds of so many dialects and foreign languages which strike your ears in the streets of our city, the resort of the whole world. So learn to know and to value the fruits of civilisation, the child of commerce and of liberty.” But I stay, for the subject is inexhaustible.

IV
MODERN SCIENCE AND NATURAL
RELIGION

An Address read before the Church Congress at Brighton in 1874

Elegantissima haecce solis, planetarum et cometarum compages non nisi consilio et dominio entis intelligentis et potentis oriri potuit . . . Hic omnia regit, non ut anima mundi sed ut universorum dominus . . . Colimus enim ut servi, et Deus sine dominio, providentia, et causis finalibus nihil aliud est quam fatum et natura. Tota rerum conditarum pro locis ac temporibus diversitas ab ideis et voluntate entis necessario existentis modo oriri potuit. Dicitur autem deus per allegoriam videre, audire . . . fabricare, condere, construere. Nam sermo omnis de deo a rebus humanis per similitudinem aliquam desumitur, *non perfectam quidem, sed aliqualem tamen*.—NEWTON, Scholium Generale, *Principia*.

Θεὸς ἔδωκεν ἀντὶ δέλτου τὸν κόσμον.—CHRYSOSTOM.

La Nature est une Image de la Grâce.—PASCAL.

MODERN SCIENCE AND NATURAL RELIGION

I THINK that the time is come when the relations between science and religion are well understood, and may be clearly stated. In the present attempt to do so, the trammels of the twenty minutes enforce a brevity which must be fatal to completeness, and possibly fatal also to precision. Nevertheless, I have done what I could under the assurance that, whether I fail or otherwise, neither the interests of science nor those of religion can be seriously imperilled at the hands of any single writer.

According, then, to the latest and most authoritative statement of the new philosophy, it is asserted with considerable confidence :

I. That the potential of all things terrestrial, including man with all his powers, intellectual and moral, the potential of our very selves, for instance, in this assembly, was originally contained in the atoms of one of those nebulous patches of light,

thousands of which are brought within the ken of the modern telescope. How this potential got there is not stated.

2. That the present state of things has been brought about, not by the subsequent intervention of any supreme cause or governor of all things, but through the natural interaction of these atoms or atomic forces. Combinations and recombinations throughout unnumbered ages have ensued, and the fittest have survived. Of living organisms the powers have descended by inheritance, have then been modified by their environments, and again the fittest have survived. This, succinctly, is said to be the origin of man by evolution.

3. It is asserted that throughout Nature there are no certain tokens of design ; wonderful adaptations are by no means denied, but they are referred to the influence of successive environments and Natural Selection.

4. This philosophy asserts that if there be an intelligent Author of Nature, an Absolute Supreme, He is to us unknowable.

Such, so far as I understand it, are said to be the legitimate philosophical conclusions of the most complete and refined science of the day.

If this be the ultimate result of the latest combinations of the atoms, and if this be all, then, so far as man is concerned, this ultimate result is

human life without an adequate motive, affections with no object sufficient to fill them, hopes of immortality never to be realised, aspirations after God and godliness never to be attained: thus myriads of myriads of other nebulæ may still be the potentials of delusion, and their outcomes the kingdom of despair.

Now, I am old-fashioned enough not to accept any of these postulates of the new philosophy *in their entirety*; there seems to be just a sufficient substratum of truth in each of them to render them specious, and to some minds attractive; but in their entirety I am unable to accept them; not because I am a Christian, but because I am a student of Nature. I know of no more illustrious names in the annals of science than those of Newton, Herschel, and Faraday (I make no mention, as I could, of the names of the living), and their faith in an intelligent Author and Governor of all things is a matter of history. Mere authority, I well know, neither has nor ought to have any ultimate weight in the deductions of science; nevertheless, the mention of these great names seems the readiest mode of reassuring an assembly such as this, of reassuring them from the very first, after the enunciation of postulates which could not fail to shock the ears and sadden the hearts of Christian men.

As to the evolution of man, not so much from a zoophyte or a monkey, as rather through zoophytes from the interaction of the atomic forces in a nebula ; if such can be shown to be the order of Nature, that is to say, if such has been and is the will of Him who ordered Nature, I bow, and have no objection to make. For "an intelligent Author of Nature being supposed, it makes no alteration in the matter before us *whether He acts in Nature every moment, or at once* contrived and executed his own part in the plan of the world." These are the words of Bishop Butler, and he goes still further and adds in words of a burning significance, "*If civil magistrates could make the sanctions of their laws execute themselves, we should be just in the same sense under their government then as we are now ; but in a much higher degree and more perfect manner.*"

If creation by evolution were a very strongly presumable fact, I should logically accept it. With my own hands a quarter of a century ago I obtained, and any chemist might have obtained, all the elements which I found in an egg and in grains of wheat, out of a piece of granite and from the air which surrounded it, element for element. It has been one of the most astonishing and unexpected results of modern science that we can unmistakably trace these very elements also in

the stars, and partly also in the nebulæ ; perhaps all of them when our instruments are improved. But no chemist, with all his wonderful art, has ever yet witnessed the evolution of a living thing from these lifeless molecules of matter and force.

From what I know, through my own speciality, both from geometry and experiment, of the structure of lenses and the human eye, I do not believe that any amount of evolution, extending through any amount of time consistent with the requirements of our astronomical¹ knowledge, could have issued in the production of that most beautiful and complicated instrument the human eye. There are too many curved surfaces, too many distances, too many densities of the media, each essential to the other, too great a facility of ruin by slight disarrangement, to admit of anything short of the intervention of an intelligent Will *at some stage* of the evolutionary process.²

The most perfect, and at the same time the

¹ On this subject I trust I may be permitted to refer to Note A appended to my Hulsean Lectures for 1867 (Deighton, Bell, and Co.) See also p. 138, note.

² It makes no difference to the force of this argument whether the intervention of the Will took place at the creation of the atoms or at a subsequent stage. The former hypothesis, viz. that of an original self-adaptive power impressed upon the molecules (assemblages of atoms) at the time of their creation, only enhances the power and wisdom of the Creator. This is in the spirit of Butler's observation, already quoted, relative to *the execution of laws by themselves*. The "manufactured articles" of Sir John Herschel would, on this hypothesis, be more highly manufactured still.

most difficult optical contrivance known, is the powerful achromatic object-glass of a microscope : its structure is the long unhopèd-for result of the ingenuity of many powerful minds ; yet in complexity and in perfection it falls infinitely below the structure of the eye. Disarrange any one of the curvatures of the many surfaces, or distances, or densities of the latter ; or worse, disarrange its incomprehensible self-adaptive power, the like of which is possessed by the handiwork of nothing human, and all the opticians in the world could not tell you what is the correlative alteration necessary to repair it, and still less, to improve it as natural selection is presumed to imply.¹

But I do not rest my objections to the theory of the universal prevalence of creation by natural selection without some intervention of an external intelligent Will, solely on any special knowledge of the structure of the human eye. Above and beyond all other similar arguments, and there are many such, Mr. Wallace, who has an equal claim with Mr. Darwin to the origination of the theory

¹ Dr. Helmholtz advances an argument on the other side. I quote it only to show some results of the new Philosophy. He says : " Now it is not too much to say that if an optician wanted to sell me an instrument which had all these defects [of the human eye], I should think myself quite justified in blaming his carelessness in the strongest terms, and giving him back his instrument." (!) I can only express astonishment, entire dissent, and the deepest regret at the language.

of evolution, Mr. Wallace has made an express exception in the case of man. For the creation of man as he is, he postulates the necessity of the intervention of an external Will, and I commend his essay to your special attention. Among other arguments he observes that the lowest types of savages are in possession of a brain and of capacities far beyond any use to which they can apply them in their present condition, and therefore they could not ¹ have been evolved from the mere necessities of their environments. Prolepsis, anticipation, I may add, involves intention and a will. For my own part, I would carry Mr. Wallace's remark upon savages much further, and apply it to ourselves. We, too, possess powers and capacities immeasurably beyond the necessities of any merely transitory life. There stir within us yearnings irrepressible, longings unutterable, a curiosity unsatisfied and insatiable by aught we see. These

¹ An able University colleague and Professor somewhat objects to this argument, because the power of anticipation might have been originally impressed upon the molecules. This is conceivable, and, if really the case, would be a still more wonderful instance of a more highly wrought manufacture of the atoms. But the contention of Mr. Darwin's Theory of Evolution seems to be, that the alteration or development of an organism is brought about solely by the environment, and is up to the extent only of the demands of the environment itself and at the time: in other words, the Forces of Natural Selection are not *anticipative*. In the beginning of Nature this theory supposes no "*pre-established harmony*." See Mr. Wallace's *Contributions to the Theory of Natural Selection* (Macmillan, 1870).

appetites, passions, and affections come to us, not as Socrates and Plato¹ supposed, nor as our own great poet sings, from the dim recollection of some former state of our being,² still less from the delusive inheritance of our progenitors ; they are the indications of something within us, akin to something immeasurably beyond us, tokens of something attainable yet not hitherto attained ; signs of a potential fellowship with spirits nobler and more glorious than our own ; they are the title-deeds of our presumptive heirship to some brighter world than any that has yet been formed among the starry spangles of the skies.

“ Whether we be young or old,
Our destiny, our being’s heart and home,
Is with infinity, and only there ;
With hope it is, hope that can never die,
Effort, and expectation and desire,
And something evermore about to be.”

But our knowledge of these atomic forces, so far as it at present extends, does not leave us in serious doubt as to their origin ; for there is a very strong presumptive evidence drawn from the

¹ See Plato’s *Meno*.

² See Wordsworth’s ode on *Intimations of Mortality*, stanza 5 :—

“ Our birth is but a sleep and a forgetting :
The Soul that rises with us, our life’s Star,
Hath had elsewhere its setting,
And cometh from afar.”

results of the most modern scientific investigation that they are neither eternal nor the products of evolution. No philosopher of recent times was better acquainted than Sir J. Herschel with the interior mechanism of Nature. From his contemplation of the remarkably constant, definite, and restricted, yet various and powerful interactions of these elementary molecules, he was forced to the conviction that they possessed "*all the characteristics of manufactured articles.*" The expression is memorable, accurate, and graphic ; it may become one of the everlasting possessions of mankind. Professor Maxwell, a man whose mind has been trained by the mental discipline of the same noble university, arrives at the same conclusion ; but as his knowledge has exceeded that of Herschel on this point, so he goes further in the same direction of thought. "No theory of evolution," he says, "can be formed to account for the similarity of the molecules throughout all time, and throughout the whole region of the stellar universe, for evolution necessarily implies continuous change, and the molecule is incapable of growth or decay, of generation or destruction."—"None of the processes of Nature, since the time when Nature began, have produced the slightest difference in the properties of any molecule. On the other hand, the exact equality of each molecule to all others of the same kind

precludes the idea of its being eternal and self-existent. We have reached the utmost limit of our thinking faculties when we have admitted that because matter cannot be eternal and self-existent it must have been created." "These molecules," he adds, "continue this day as they were created, perfect in number, and measure, and weight, and from the ineffaceable characters impressed on them we may learn that those aspirations after truth in statement and justice in action, which we reckon among our noblest attributes as men, are ours because they are the essential constituents of the image of Him who in the beginning created not only the heaven and the earth, but the materials of which heaven and earth consist." And this, my friends, this is the true outcome of the deepest, the most exact, and the most recent science of our age. A grander utterance has not come from the mind of a philosopher since the days when Newton concluded his *Principia* by his immortal *scholium* on the majestic personality of the Creator and Lord of the universe.

I now come to the question of design in Nature. Our new philosophy admits that throughout Nature there are found innumerable instances of wonderful adaptations; but it asserts that these adaptations are the necessary, the inevitable results of the new environments, the mere fact of the permanent

survival of a modified organism being in itself a clear intimation that it is the fittest modification that has survived, and that some new and effective adaptation has been established. It is not stated whence came the singular capacities of the molecules for assuming their new arrangements; nor is it explained how it comes about, that the permanent survivals follow (on the whole) the direction of improvement. But it is stated that Mr. Darwin, whose mind is said to have been "the most deeply stored with the choicest materials of the teleologist, rejects teleology, seeking to refer these wonders to natural causes." This is high authority, though in science, as I have said, authority weighs but little. On the other hand, I know for certain that so strong were the convictions of Sir John Herschel in the very contrary direction, that one of his last acts, very shortly before his removal from among us, was to busy himself about a MS. collection of all the passages in his own writings where he had referred to the tokens of an intelligent Will in Nature.¹ We have also heard the testimony of the greatest molecular physicist now living among us. If, then, the question of design were to be settled by the weight of philosophical authority, the Christian has nothing to fear. But in questions such as this,

¹ One of the most striking of these, quotations from Sir John Herschel's writings, will be found as a motto on page 144, *Essay V.*

wherein, and from whatever causes, the philosophers are said to differ, I should prefer to appeal to the common and average sense of mankind.

I know of no greater intellectual treat—I might even call it moral—than to take Mr. Darwin's most charming work on the *Fertilisation of Orchids*, and his equally charming and acute monograph on the Lythrums, and repeat, as I have repeated, many of the experiments and observations therein detailed. The effect on my mind was an irresistible impulse to uncover and bow my head, as being in the immediate presence of the wonderful prescience and benevolent contrivance of the Universal Father. And I think such, also, would be the result on the convictions and the emotions of the vast majority of average¹ men. I think their verdict would be, that no plainer marks of a contriving Will exist in a steam-engine, or a printing-press, or a telescope—I am not speaking of the whole end, scope, and intention of that Divine Will, I am only speaking of the marks of its existence; the rest we know not yet.

¹ A few years ago a celebrated cause was tried at Edinburgh; the question being whether a certain mineral was coal or not coal. Several of the ablest geologists and microscopists of the day were called on both sides. The one set deposed that the mineral was not coal at all; the other, that it was coal of the very best description. The perplexed judge was compelled to throw aside all the scientific evidence and to rely on the judgment of an average workman of intelligence. Of course the mineral was coal.

Or again, recurring to our ultimate molecules. The great modern advance of human knowledge, and especially the wonderful applications of this knowledge to the purposes of the arts of life, have arisen very much from the existence of iron, and coal, and sulphur, and platina, and silica upon our planet. Now tell me, what were the anterior chances, prior to the existence of Nature, that when a being like man came, after the lapse of ages, upon our earth, he would have found stored up for him, and for his development in the scale of being, iron, and coal, and sulphur, and platina, and silica? To tell me that the co-existence of all these essentially independent existences might be the result of anything short of the intention of a prescient Will, the evidences of a "*pre-established harmony*," would be equivalent to telling me that, after placing sufficient letters of the alphabet into a box, there might be dredged out of it the dialogues of Plato, the dramas of Shakespeare, and the *Principia* of Newton.

But now comes the inevitable question, which all along may have been perplexing your minds, as I confess it once greatly perplexed my own. How is it that men, endowed with nearly equal capacities, and possessing nearly equal opportunities, should draw such different, not to say such

opposite, conclusions on subjects which in importance transcend all others, and beyond all others tax the reason to the utmost, and touch the emotions to the quick?

I think that one cause of this contrariety of conviction lies in the nature of the evidences for Christianity, in the natural evidences for the being of a Supreme, and for the Immortality of the Soul. These evidences, from the very nature of the case, cannot be mathematical, or demonstrative, or scientific; they belong rather to that class of evidence which we call probable; to that class, be it observed, upon which alone we determine the conduct of our lives; for, "to us probability is the guide of life." And although these probable evidences range greatly in degree, and although not any one of them, taken alone and by itself, may be sufficient to command entire consent and enforce an absolute conviction, nevertheless, when taken altogether, they may—they often do—by their consilience from many different and *independent* sources, furnish the mind with the highest moral certainty of which it is capable. This we claim to be especially the case with Christianity; and in arguing the case, this consilience ought never to be forgotten, for it is by laying too great stress upon one or two of these presumptive evidences alone, and especially in conversation,

or in the rapid reading of a literary article, that many a mind has been robbed of its peace. "For it is easy to show," says Bishop Butler,¹ "in a short and lively manner that such and such things are liable to objection, that this and another thing is of little weight in itself; but impossible to show in like manner (*i.e.* in a short and lively manner) the united force of the whole argument in one view."

Now it is especially in this region of probable evidence that the bias of the will comes in to warp the judgment. The bias of early education, the still greater bias of a later discipline of the intellectual and moral faculties, the bias of the environment and of party spirit, the bias, we are told, even of a strong or of a morbid mood.² Thus, by the excessive or exclusive cultivation of any one side of our complex nature, intellectual or ethical, the mind becomes one-handed—lop-sided. This is the inevitable *Nemesis of Disproportion*.

In like manner, the exclusive or excessive addiction to mathematical studies has a tendency to render the mind averse to, or distrustful of, arguments which are not demonstrative; excessive addiction to physiology may superinduce an undue

¹ *Analogy*, ch. vii. part ii.

² Tyndall's Preface to his Address to the British Association, 1874.

reliance on the effects of the "rhythmic vibrations of the brain," or on unquestionably mechanical actions of the nervous system ; experimental philosophy suggests the arguments of measure and weight, and has been found to match vaccination against prayer. On the other hand, the theologian is very liable to a strong bias in favour of authority, and to circumscribe his views to the conditions of a world not yet realised. All these tendencies, unless consciously and carefully watched, do, and of necessity must, warp the judgment, and render it more or less incapable of a just and impartial decision. This or that line of probable evidence, when presented to its consideration, is unduly cast aside ; the threads of the evidence are rudely snapped one after the other, and the *consilient* network of the whole argument is overlooked.

It is in the modern tendency to specialism of pursuit that the greatest danger is to be feared in regard to the philosophical arguments against Christianity ; for the evidences of Christianity are not special, but varied and co-extensive with the whole nature of man and his environments. Hence it would be well for the philosopher to take into the laboratory of his intellect such old-fashioned authors as Butler and Paley and Coleridge,¹ and honestly test in his personal experience

¹ There is in my opinion no book in our language on the

the faith which he begins to doubt, before he finally rejects it. Better still would it be if, in the study of every manse throughout England, there were found a well-used microscope, and on the lawn a tolerable telescope ; and best of all, if those who possess influence in our national universities could see their way to the enforcement of a small modicum of the practical knowledge of common things on the minds of those who are to go forth and do battle with the ignorance and the failings of our population, and to spread light throughout the land. A little knowledge of the four ancient elements, fire, air, earth, and water, would save many a young clergyman from the vanity of ridiculous extremes, and from the surprise of the more wisely and widely educated among his flock. For, depend upon it, whatever may be our suspicions or our fears, the pursuit of the knowledge of the works of Nature will increase, and increase with an accelerated velocity ; and if our clergy decline to keep pace with it, and to direct it into wholesome channels, they and their flocks will be overtaken, fundamentals of the Christian Faith better suited to a patient and thoughtful mind than Coleridge's *Aids to Reflection*. The late venerated Bishop Sumner, at one time, used to recommend Aphorism xix, on *Redemption*, to the notice of his candidates for Ordination. With reference to Christianity, Coleridge says : "TRY IT. It has been eighteen hundred years in existence : and has one individual, in whose words you could place full confidence, left a record like the following ?—I tried it, and it did not answer. . . ."—Aphorism vii.

though from opposite directions, by what I have ventured to call the inevitable Nemesis of Disproportion.

I, for one, believe, not so much in the right as in the duty of every man to make the best of the faculties wherewith his Maker has entrusted him ; and I meet with a grateful and a hopeful thought all those unexpected accessions to our knowledge of God in Nature which in recent times have come to us in almost overwhelming abundance. There is no need to be frightened at the phantoms raised by such terms as matter, and force, and molecules, and protoplasmic energy, and rhythmic vibrations of the brain ; there are no real terrors in a philosophy which affirms the conceivability that two and two might possibly make five, or in that which predicates that an infinite number of straight lines constitute a finite surface, or in that which denies all evidence of design in Nature, or in that which assimilates the motives which induce a parent to support his offspring, to the pleasures derived from wine and music, or in that which boldly asserts the unknowableness of the Supreme and the vanity of prayer. Surely philosophies which involve such results can have no permanent grasp on human nature : they are in themselves suicidal,¹ and in their turn, and after

¹ Mr. Mivart's word is "*internecine*"; Dr. M. Arnold's is

their brief day, will, like other such philosophies, be refuted or denied by the next comer, and are doomed to accomplish the happy despatch.

Meanwhile we have the means of at least partially summarising the results of modern discovery on the interpretation of the revelation of God's Will contained in the Sacred Scriptures. The discoveries of Copernicus, Galileo, and Kepler taught the Christian Church that the language of the Bible was to be understood in the ordinary sense of the ordinary language of men, and was not to be strained into an adamantine literalness. The subsequent discoveries of geology have carried a similar lesson still further, and we may safely conclude that in the earlier chapters of Genesis the great Father of Mankind is teaching His children as children, and only up to the measure of their capacities and their needs at and about the time of the Revelation. At the same time, we find that He has endowed them with powers and capacities, "dismal." See *Contemporary Review*, October 1874, pp. 776 and 818. With reference to the unlimited time demanded by the Theory of Evolution, it may be remarked, that if the resultant of the forces of evolution acting continually but *accidentally* on an organism, be expressed as a *definite integral*, with the time from the creation as independent variable, and the superior limit 1874 A.D., is it not conceivable that the result should, as is the case with many such integrals, be either *nothing* or a small quantity? This seems to me to be worth consideration, as a possible source of the fallacy in the unlimited application of the doctrine of the survival of the fittest.

each and all of which they are bound to develop, and thereby to learn more and more of His will in Nature. Lastly, the course of scientific discovery has led to the certainty that the universe at large, our own physical frames, and our mental and moral constitution, are arranged on a much more mechanical principle than had hitherto been conceived. The Christian student and the philosophical divine will be wise to expect a still further development of knowledge in the same direction. On the other side, we have at length been brought, by philosophical conclusions, from the most advanced scientific knowledge of the day to the philosophical certainty that matter is not eternal, but that from the beginning of Nature it was endued with very wonderful properties by some Intelligent Will. This is the latest and the grandest Revelation of Nature. Here we may safely stop.

For my own part, a lifetime passed in the pursuit and the communication of natural knowledge, so far from effacing or obscuring the faith in which I was brought up, has served to deepen and to render more intelligent the conviction that the sacred Scriptures, properly interpreted, are to us the Word of God ; that the great Father of all has rendered himself knowable to mankind by the manifestation of Christ, and that in this know-

ledge consists their highest life ; that He has redeemed them by the atonement of His Son, and illuminates and strengthens all who come to Him by His Spirit.

V

ASPECTS OF NATURE IN RELATION
TO MIRACLES AND PROVIDENCE

An Address read by request before the Church Congress at
Swansea in 1879.

“There is, in the present age, a certain fearlessness with regard to what may be under the government of God, which nothing but an universally acknowledged demonstration on the side of Atheism can justify: and which makes it necessary that men be made to feel that there is no sort of ground for being thus presumptuous, even on the most sceptical principles.”—BUTLER, *Analogy*, ch. ii. pt. i.

“Will without motive, power without design, thought opposed to reason, would be admirable in explaining a chaos, but would render little aid in accounting for anything else.”—Sir J. HERSCHEL.

ASPECTS OF NATURE IN RELATION TO MIRACLES AND PROVIDENCE.

A FEW weeks ago it was my lot to meet an old friend who for many years had been lost sight of. Our conversation soon turned to the subject which is so often uppermost in the minds of thoughtful men, viz. as to how it had fared with him in these days of religious conflict. He had been much troubled, he said, by those endless contrarieties of religious belief, and doubt, and dogma, which on this side and on that he had heard propounded. Knowing how brief our conference must necessarily be, I at once addressed myself to what I regarded as the pith and the root of the matter, and I suggested that, apart from the statements in the New Testament, there could be no permanent and solid ground for the hopes and consolations and religious convictions of the Christian. As for the interpretation thereof, I added, the Gospels and the Epistles were originally addressed to plain men, endowed with ordinary capacities, and engaged in

ordinary avocations, and in the interpretation of the sacred documents they were, and we are, responsible to the Giver for the proper use of the gifts we have received. True, said he, but there seem to be grave difficulties anterior to and underlying the narratives in the Sacred Scriptures. Here I paused for a moment, and he added, I refer for instance to the alleged impossibility of Miracles, and to the many arrangements in Nature which appear to militate against the power or the benevolence of its Author. I rejoined, you are now opening a wide question, and one that cannot be effectually discussed where we stand. Your train awaits you, and I have only time to say that these subjects have naturally exercised my own mind also for many years, and the result is that I, for one, entertain as strong a conviction of the substantial veracity of the Gospel Histories as I do of the Newtonian theory of Gravitation ; and I am not more staggered at the wonderful things recorded in the Life of Christ, than I am at what I read in the skies themselves of the constitution and the motions of the stars. I know not what may have been the effect of these *ἔπεα πτερόεντα*, these winged words, upon my friend's mind, but they at once suggested to me the matter and the form of my Address to yourselves to-day. Possibly I may thereby afford to

some of my brethren who are battling with the doubts and errors so rife in the world new phases of thought ; and these new and helpful thoughts they may, in their turn, bring to bear on the intellectual and moral trials of others who may consult them in their spiritual needs ; and thus the fruits of the seed now cast upon the waters may be reaped after many days : who can tell ?

Si quid ego adjuvero curamve levasso

Ecquid erit pretii !

I shall ask you then, in this behalf and in the first instance, to consider with me *The Vastness of Nature* : a vastness both with regard to variety and to extent : to our finite conceptions a vastness illimitable, infinite. And the reason why I invite you to the consideration of this phase of Nature lies in the conviction that it will remove from some minds, as it certainly has from my own, all *a priori* or anterior objections to the Miracles of the New Testament, drawn from the suspicion that they are *contrary to the Laws of Nature*. I think I shall be able to convince you that, whatever else these Miracles may be, we have no valid reason for regarding them in this light, that is, either as Contradictions or even as Suspensions ; on the contrary, they may, after all, be only necessary instances of the orderly course of Nature itself ; NATURE, I mean, regarded as a WHOLE. This

branch of the subject being dismissed, I propose to consider certain other parts of Nature in their *Prophetic or Anticipative Aspects*: thereby vindicating, I think, the parental or providential character of many natural dispositions of things in the midst of which we have our being.

Turn your thoughts then, for a few moments, to the Starry Heavens, as nightly disclosed to the Astronomer's gaze by those gigantic telescopes and their appliances, which are among the chief wonders of modern inventive skill. In certain portions of the heavens more stars pass each minute across the small visible field of the instrument than you or I have ever distinctly seen, with unaided vision, shining over the whole concave surface of the sky; I say nothing of the incalculable distances of each from each, or of each from our Earth.¹ Yet modern research has taught us, as you know, that each of these innumerable lights is a sun, similar in its constitution to our own; nay, often a combination of two companion suns, each revolving round each other, and each revolving, beyond all question, after the order of the same Keplerian laws which regulate our own. Moreover, there can be no doubt that close to

¹ Mr. Roberts has recently (1888) photographed more than 30,000 stars on one small plate less than four square inches, placed in the focus of his telescope. Ptolemy at Alexandria did not count more than 1200 in the whole sky, with the naked eye.

each of these companion suns there revolves a system of planetary worlds, nestling within the protective influence of the dominant attraction. Further still, and what interests us most, is the fact that our planetary system and our own sun are themselves mere units in this vast associated group of revolving orbs. Yet this incalculable array of associated systems of worlds is not a Chaos but a Kosmos: a Kosmos replete with order, and beauty, and law. The sublimity of its beauty is familiar to us all; and labour and ingenuity have gradually disclosed some portions of its orderly arrangements. Strange to say, it is owing to these orderly arrangements, and to them alone, that we are enabled to guide our ships in safety across the ocean; by these alone we lay and we recover our Atlantic cables, we map out our continents, we measure our globe with matchless accuracy, and we regulate the calendar of our seasons. But as for the whole scope, the final intention of this illimitable scheme, the why and the whither of this stupendous prodigality of creation, we are utterly and hopelessly ignorant. The Christian, indeed, will say that these bright innumerable existences read to him a sublime lesson as to what He, the Author of this transcendent magnificence, must be, who nevertheless condescends to call Himself his Father, and sheds

abroad within the Christian's spirit the joy unspeakable and the ineffable dignity of the filial relation. But let that pass.

And now, not in contrast, still less not in derisive contrast, turn your thoughts to that little sand-glass which necessarily limits, and may be paralyses, the due accomplishment of my present task. The sand therein you know is the debris of ancient continents, existing ages upon ages ago upon this our globe, and teeming with life and happiness and beauty long anterior to the advent of man. The why and the whither of this amazing prodigality of duration as much baffle and evade us as do the number of the stars. And next think of the two distinct materials which in the main constitute the glass, that curious envelope which contains the sand. Of one of these materials every particle, strange to say, ages and ages ago passed through the organic tissues of microscopic creatures, and then became elaborated as flint for the ultimate service of man: elaborated by living creatures enjoying no doubt a pleasurable existence in those ancient waters. Nor is this all, for the other material of the glass formed an essential element in the life and growth of the beautiful flora which adorned the primeval shores. But as to the ultimate why and the final whither of all this sublime machinery, this vast

prodigality of resource, this interminable variety of NATURE, they astonish, baffle, and evade us. But it is not so much the sand, or the glass containing it, to which I desire to draw your attention ; but it is rather to something else within the glass, viz. the atmospheric gaseous substances, which, though invisible to our eyes, are to my mind far more marvellous, and in one sense far more stupendous, than all the incalculable numbers and the subtle arrangements observable in the starry heavens. For modern science has revealed to us the existence, within that glass, of myriads of myriads of myriads of gaseous entities—the mind becomes stupefied in reckoning up their numbers—which, moving amongst each other with velocities measurable by no terrestrial standards, but approaching rather the velocities of the planets, and dashing against each other and against the sides of the glass, produce, by their orderly conflicts, all those varied effects which we classify under the names of atmospheric pressure, heat, and light, and electricity ! Moreover, each one of these innumerable atoms has its own distinctive and characteristic weight, infinitesimal though it be. Each, from all primeval time, has been endued with its own unalterable individuality, its definite likes and dislikes, and its own associative energies. Such is the wondrous constitution, revealed to us

by the ingenious diligence of modern research, of the aeriform substances constituting the atmosphere within that glass: the atmosphere, in fact, in which we breathe. The mind becomes half-humiliated and half-paralysed at the contemplation, and even that most accomplished mathematician, my colleague from the sister university, who will soon address you, must find his powers sorely exercised in the disentanglement of these complicated flights and collisions of these atoms.

But now add to those stupendous hosts which adorn the skies, and to these myriad atoms thus curiously endowed—add, I say, all the existences that lie between and around them; add to them that bright mysterious thing called *Life*, and specially human life; Man, with all his godlike endowments of the understanding; Man, with all his appetites, passions, and affections, and “all that stirs this mortal frame”;—and then, summing up the whole, what have you arrived at, at last, in all this interminable array of things and thoughts? Simply this: you have NATURE; *Nature*, which is only another name for the sum of all created things; all that exist, or have existed, or ever will exist. You have indeed a Scheme, a System, a Constitution of things, in which, though the several parts manifestly cohere and interact with

an astonishing connection, nevertheless it is a Scheme in which "it is impossible for us to give the whole account of even any one single thing whatever;" "the whole account, that is, of all its causes, ends, and necessary adjuncts—adjuncts, I mean, without which it could not have been."

We speak indeed of the LAWS OF NATURE : but very essential it is that we analyse the meaning of the terms. We find that certain circumstances, certain collocations of matter, for instance, or of the planets, recur again and again, and then we find that certain other consequences invariably ensue, and so far as such and similar collocations of matter are concerned, we rightly conclude that we have at length discovered the plan, the law, the natural scheme, after which this matter, or those planets, or those collocations or environments, are so far constituted. And this we call a *Law of Nature* : a law expressing *so far*, and so far only, the Will, the scheme, of the Author of Nature. But of how few instances of things, and of how infinitesimal a part of Nature have we discovered such laws. You may count them on the fingers of your hands. There are the Laws of Motion, for instance. Some of these we do know, for Galileo and Newton discovered them and taught them. And Joule, in more recent times, taught us the convertibility of motion into other forms of

energy. And Young and Fresnel taught us a little of the nature and laws of Light. And Faraday gave us some notion of the mode of action of Electricity. And Herschel pierced through a rift or two of the veil which interposes between us and the starry vault. But you have now traversed the realms of certainty and of known Natural Law ; and as for the rest of things, the Law (*i.e. the Scheme of the things*) is displaced by presumptive evidence, and probability alone becomes the guide of Life.

“ Now, in this darkness, or this light, of Nature, call it which you will,” tell me, if it pleased the Author of Nature to send to us His children a revelation of things in which we are most deeply concerned, but regarding which the visible parts of Nature could give us no information ; if in this behalf there appeared upon this earth one who assumed to be a messenger from heaven, and to know the secrets of the Most High ; if he claimed for himself a divine original, and exhibited in his conduct moral excellences and a moral intelligence far beyond any that we conceive attainable by the children of men ; if he taught and lived as none other being ever taught and lived before or since ; and if in the course of his ministry this Unique Being, appearing under this unique environment, claimed and was said and seen to exhibit power

over the diseases of the body and over the elements of Nature, nay, over life and death ; could you, I ask, *under these unique circumstances*, and considering what the scheme of Nature has been shown to be, viz. to us illimitable and unknown ; could you, with any show of reason, reject the narrative, simply under the plea that it was *contrary to the Laws of Nature* ?

It is not, then, any known contrariety to the laws of material Nature which, to our finite apprehensions, affects the *a priori* credibility of miracles. On the contrary, the question regarding miracles is relegated to the credibility of human testimony. The true question is, Did the alleged occurrences really occur ? And the case is even stronger than this, when referred to Nature in her immaterial phase. For the wonderful works of the Unique Being are attributed to the force of His Word, and the energy of His Will : and who knows anything of the relations of the Will of such a Being to the motions of material atoms ? Thus the question is again removed to the credibility of the witnesses—and there it lies outside the scope of the present argument.

Such then is an outline—(our time and the occasion admit no more)—such, I say, is a mere rapid sketch of the grounds on which I regard the Miracles of Christ as removed from all questions

regarding the Laws of Nature with which we have acquaintance. The occasions on which these wonders took place were utterly unique in the world's history. The great Being who performed them was unique among the children of men, and the objects and His Mission were unique : what wonder then if the works of His life were equally unique? In a word, the whole environment belongs to a part of Nature hitherto undisclosed, and the Laws which govern it were at the time, and still are, unknown. Under this aspect whatever occurred might be, or must be, essentially miraculous, part, that is, of the general Scheme of Nature, but nevertheless a part of it hitherto not by us experienced.

Finally, add to the consideration of the mere presence of this unique Being and of His Mission among us, add the consideration of the power of His WILL. The power of the human will, nay, the power of all animal will, is as great as it is mysterious. By it we every moment introduce a force, a natural force, which overcomes gravitation in the motion of our limbs : we control the wills and the actions of other men ; we "overcome kingdoms." The Christ of the Gospels said that His Will was the Will of Him that sent Him. Are there any limits to the power of that Will, other than the limits of Beneficence and Wisdom?

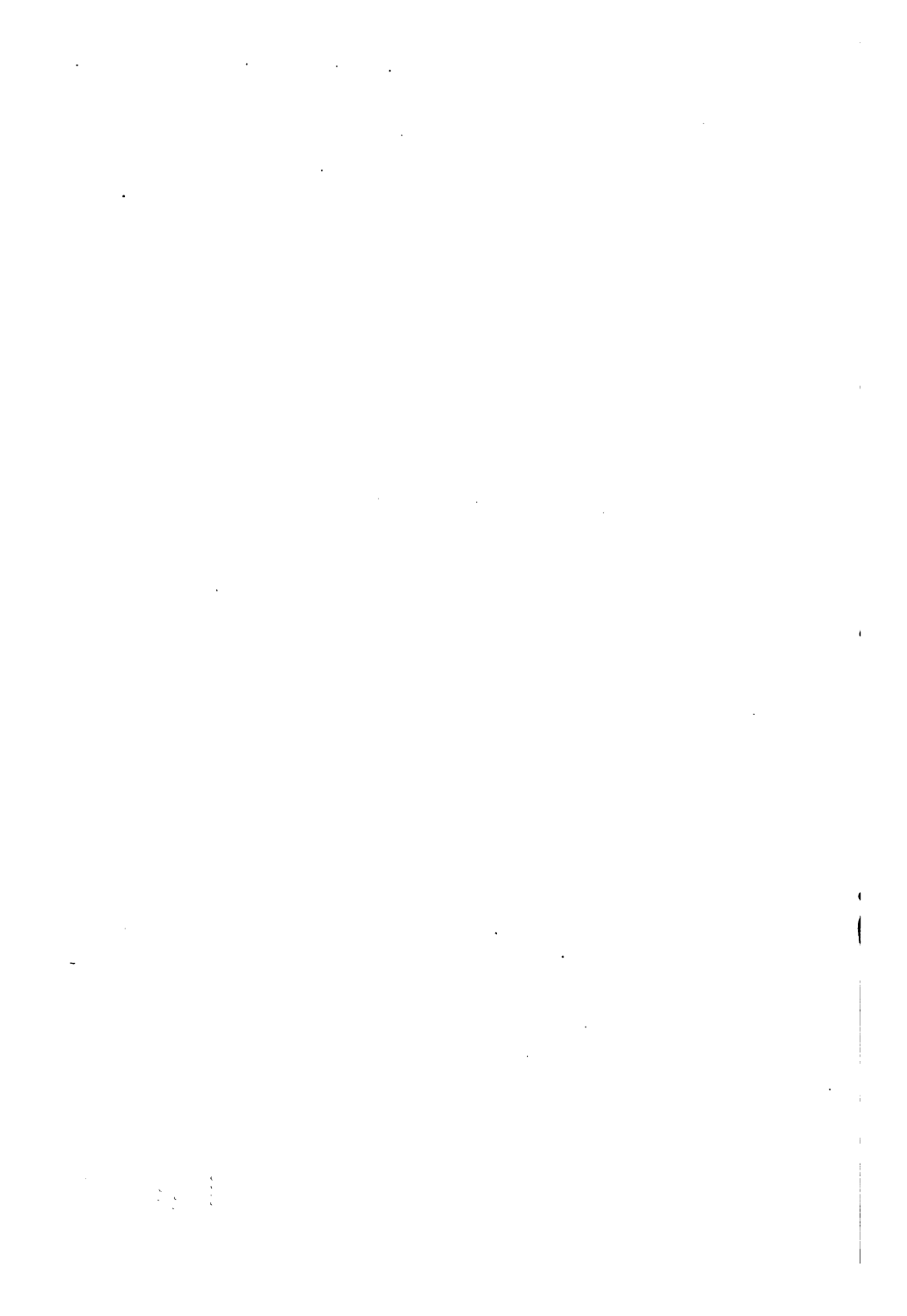
What wonder then that at a word of His, the word that expressed His Will, other and to us strange forces come into action, and so "the blind receive their sight, and the lame walk, the lepers are cleansed and the deaf hear, the dead are raised up, and the poor have the glad tidings preached to them."

I proceed reluctantly to the last topic of my address to you to-day. And even this I am constrained to dismiss with a brevity and a sententiousness which must fall far short of the thing I aim at. I refer to the *Prophetic* or *Anticipative Character* of certain arrangements in the course of Nature. In my mind they give rise to an admiration and an astonishment inferior only to those produced by the contemplation of the Miracles of Christ.

Consider then, for a moment, in what are constituted, and by what means are developed, the arts, the conveniences, the embellishments of social life. What, for instance, would this English life of ours be, in the absence of coal, and clay, and iron, and glass. Even the absence of sulphur, —God forbid that I should here be thinking of miserable, though necessary war,—but the absence of even sulphur, as a material element in sulphuric acid, would make an absolute revolution in the useful and pleasant varieties of our daily existence.

Regard also for a moment railways, and telegraphs, and telescopes, and spectroscopes, in the mere light, though that is an important light, of their exciting the curiosity and developing the intelligence of the *great masses* of our population. Go back in thought to the distant times of our lakewellers, and to those still more ancient cheerless men whose chief mechanical implements consisted of wedges of flint, and then let me ask you what is the source from whence we derive those materials which have been, and, as I contend, must have been, fore-ordained to be a chief means of our advancement in the arts of life, and of the discipline of our intellectual powers. We know that it is from the dark recesses of the solid earth alone that, with curious, obstinate industry, we dig and delve those crude materials which, in the course of their skilful manipulation, tax and inform and strengthen the inventive faculties ; and, in their subsequent appliance to the conveniences of life, develop and enhance the social relations and the active charities of daily existence. Thus the earth, by the bounty of her providence, becomes to us the fruitful parent of a double boon. And now that you have before your minds this wondrous correlation of the constituents of our complex globe to the still more wonderful being in due time to be placed upon it, so that he may subdue it to the purposes of his own moral and

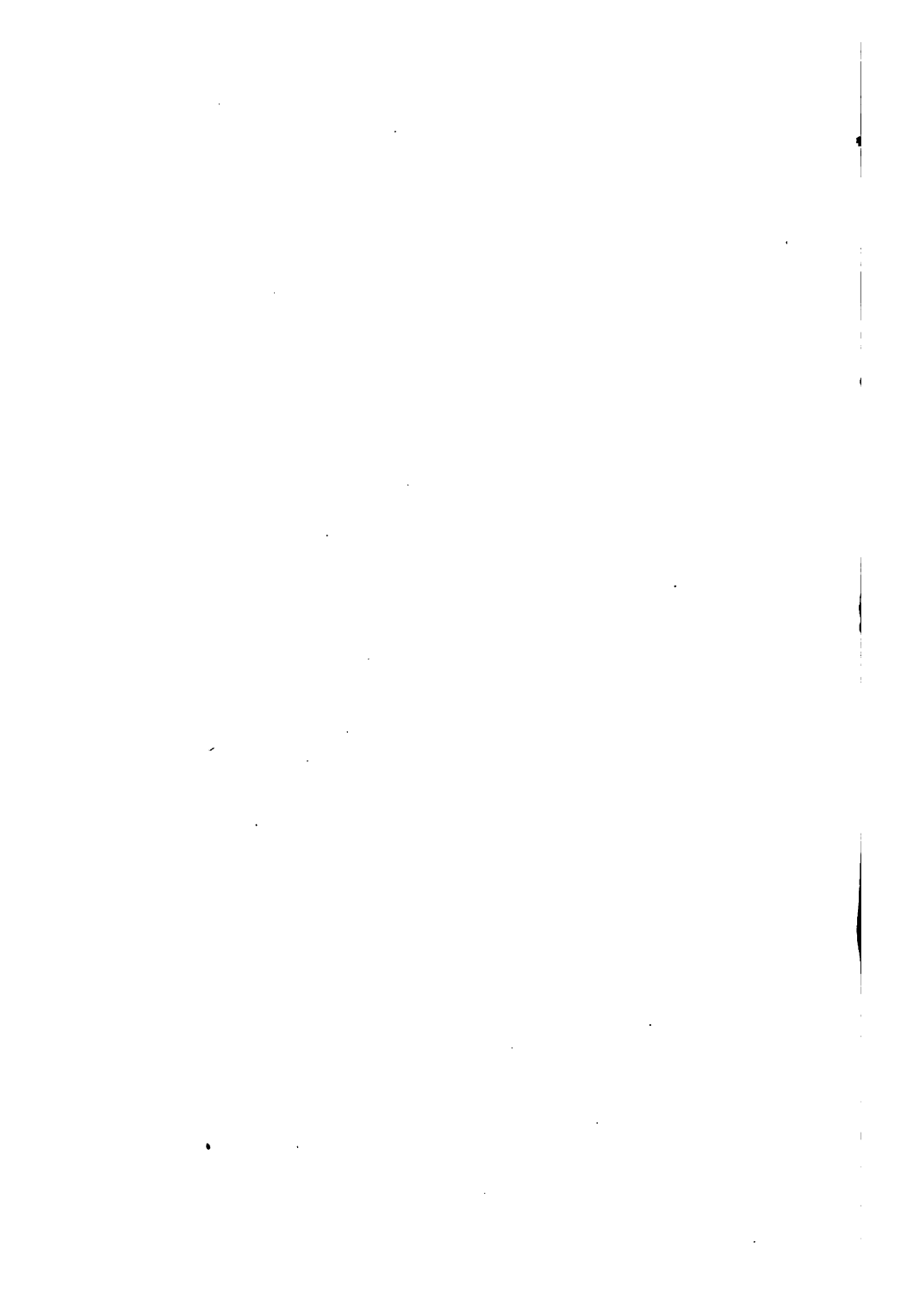
intellectual elevation—to the purposes, I say, of his gradual development upwards and onwards towards the Supreme; I say, holding this wondrous correlation of human capacities with material things clear and full before the vision of your minds, turn the gaze of your thoughts towards the nebulous masses in the far-off sky, now in process of condensation, of evolution if you will, into new suns and new worlds, to be constituted in their turn after the fashion of our own. In these mysterious fiery clouds the instructed gaze of science already discerns the nitrogen of future atmospheres, the hydrogen of future oceans, the carbon of a future vegetation, and, it may be, the sure traces of the iron that is destined to quicken the inventive genius of beings who are to be the denizens of worlds yet unformed. Magnificent prolepsis! The skies of the ages long past must in like manner have once proclaimed the ultimate advent of the same beneficent arrangements in preparation for ourselves. For those ancient skies contained the “promise and the potency,” the far-off prophecy of the advent of beings who, in the slow but secure progress of the rolling ages, would sing of the glory, and be warmed and invigorated by the parental love of the Lord of the universe.



VI

SCEPTICISM AND FAITH
CONSIDERED IN RELATION TO THE
PROGRESS OF THE KNOWLEDGE
OF NATURE

An Address read to the Church Congress at Dublin



SCEPTICISM AND FAITH

IN the biography of the poet Thomas Moore there is the record of a conversation between himself and the philosopher Schlegel, in which the latter puts the following question: "If a man conscientiously and without any intentional levity were to publish a book in England expressive of his disbelief in the Scriptures, and giving the reasons of his disbelief, how would such a book be received?" To this question the poet replied, "As to the book, I don't know; but I know how the man would be received, and I should not like to be in his place." And this is probably a fair representation of English public opinion among the educated classes of the last generation. But how changed is the sentiment of the present hour. I believe that I betray no secret, but am referring rather to a notorious fact, in the establishment of a society of gentlemen, counting among its members high dignitaries in the English and

Roman churches, and others equal to them in rank and influence and moral worth, who periodically sit side by side with the most prominent and advanced sceptical writers of the day; calmly, and without anger, or the expression of surprise, discussing questions which a very few years ago would have been regarded as dangerous to public morals, if not socially disreputable. No doubt these philosophic, and for the most part highly cultured gentlemen are anxious to hear the best and the worst that can be said of the foundations of their respective faiths: and, in such respects, to be forewarned is to be forearmed. But the fact of the association still remains; and what is of far more importance, the question still remains as to the origin and the significance of this unexampled mutual tolerance of antagonistic opinions on matters which affect the closest and dearest of human hopes, and the strongest motives of human actions.

Moreover, we ourselves are all of us cognisant of another fact, parallel to the former and of cognate significance, whatever that significance may be. The periodical literature of the day bristles with discussions and attacks on our orthodox creeds, which a few years ago would have been resented as inconsistent with the secure existence of society; nevertheless this literature lies in profusion on the tables of our clubs and drawing-

rooms, accessible alike to old and young, to the sons and daughters of our families, and to the visitors within our houses, unrebuked and unrestrained.

What then does this remarkable revulsion in the public sentiment imply or portend? Is it symptomatic of a widely diffused and growing indifference? Is it significant of ignorance as to the serious bearings of the points at issue? Does it originate in curiosity, or is it a happy consequence of the innate love of Englishmen for fair play? Is it in any degree the Nemesis on some extravagance of dogmatic assertion in the theology of years that are gone by—the Nemesis, that is, of exaggeration and disproportion? Or, lastly, is this discussion and unwonted tolerance of antagonistic opinions a fashion of the day, ephemeral and unreasoning?

Musing, though not without anxiety, as most thoughtful men are wont to muse, on this anomalous state of the public sentiment, two observations not alien to the subject before us have occurred to my mind, which in my hearing fell from the lips of that eminently honest and most accomplished philosopher, the late Sir John Herschel. "What a strange thing," said he, "is public opinion in England: it will *put up* almost anything: and if it finds in the long run that it won't do, it will quietly *put it down*." On another

occasion, when this gifted man was observed to be in a state of considerable mental disquietude (it was in the earlier days of table-turning), upon being asked what it was that troubled him, he replied, "Well! to think that, after all that has been done and written on the subject, men have so little faith in the laws of motion!"

Now, I for one am inclined to think that Society, public opinion, has for the moment "put up" Scepticism: that is to say, dropping the thin veil of the euphemistic disguise, it has "put up" a new form of practical Atheism, making its advocates fashionable, and setting them in high places; but it may be that, so soon as it is felt that the questions at issue are not confined to protoplasm, and the nebular hypothesis, and natural selection; so soon as it is clearly seen that these questions touch the deepest and most fondly cherished emotions of the human heart, and actuate the springs and motives of practical life—then I think that Society, public opinion, will put down this moral dynamite, and remove this dangerous explosive from the neighbourhood of our families; but not, alas! before many a fine mind has been involved in darkness and desolation. Christianity is not yet annihilated.

And, in no remote analogy with the other remark of the same philosopher, I also believe

that so soon as Society, so soon as any individual member thereof, becomes truly cognisant of the laws of the Kingdom of God and of his Christ ; so soon as he becomes personally and in his heart imbued with the Christian faith, and versed experimentally in the dynamics of the Christian life—he will, by sure and happy intuition, by spiritual insight, at once reject the ideological table-turning of the new philosophies. For you cannot by such philosophies, you cannot by any amount of materialistic palmistry, obliterate the life-long experience of a man's affections, and persuade him that the peace, the love, the joy, the moral strength that have possessed him, and have ripened into act, are the mere collocations of molecules and evolutions of his own consciousness. If he knows anything, he knows that from within they have actuated his outer life, impelling it towards all that is reputed best and noblest among men, with a power far beyond any that he could call naturally his own. You cannot obstupefy such a man by the jugglery of a mathematical puzzle, telling him that all knowledge is uncertain, and that no man can be sure that, under some conditions, two and two may not be five. To such an one, thus endued with a spiritual insight, thus panoplied in the faith of the world to come, you may as well offer a stone or a

piece of chalk in return for the bread of his inner life as try to persuade him (and here I quote from the written oracles of the new religion)—as try to persuade him “that the noblest and most human emotion is worship (for the most part of the silent sort) at the altar of the Unknown and Unknowable!” Such a man will hardly stop to unravel the enigma of these strange words; they will rather roll back his thoughts for two thousand years, and they will recall to him the vision of an aged man walking along the streets of Athens, hard by an historic altar nigh to the Areopagus; and in spirit he will thence follow the grand apostle to the dungeon and sword of Nero; in spirit hearing and in his own experience responding to the words “*I know, I know* whom I have trusted, and I am persuaded that He is able to guard that which I have committed to His keeping.”

Further, the two terms which most accurately describe very much of—I was going to call it the new philosophies, but in fact they are but a *réchauffé* of the old—these two terms, I say, viz. Atheism and Scepticism, are just the very terms which the authors and advocates of the new-old philosophies are most careful to reject or to explain away. As to Atheism, probably few or none of us have ever met with a man who *avowed* himself an atheist. Non-theism or Antitheism is

not so unacceptable. I stop not now to ask the source of the repugnance, or to analyse the generic difference of the terms.

And as to the other term, Scepticism, it is very instructive to observe the ingenuity of the attempts to remove the social sting from the word. The most recent suggestion is that the true sceptics are those who reject the new-old philosophy: theism, they tell us, is the true scepticism: be it so: "things are what they are."

But what is still more remarkable is the new dogma that the Sceptical Spirit is the one actual source of all progress in knowledge. In a well-known "lay sermon" (oh, shade of Coleridge for the term!) I read that "Natural Knowledge," or as it had perhaps better be called, Nature-Knowledge, "is in fact the only real knowledge"; and that every great advance in this natural knowledge has involved "the cherishing of the keenest scepticism." Now I do most emphatically deny, on ethical and historical grounds, that the progress of mankind in any one branch of knowledge or of morality, has been furthered by a sceptical spirit. I affirm that all true knowledge of every kind has been born of FAITH, and has been nurtured by patience and hope. Scepticism is not the joyful mother of children: she is barren. Restlessness is her step-mother, hopelessness and misery dwell in her abode.

It was not in scepticism, but in faith, that Galileo persevered till he wrested from Nature her secret of the Laws of Motion. It was not in scepticism, but in faith, that Kepler toiled and failed, failed and toiled, till he discovered the laws which he felt assured the Lord and Governor of the universe had impressed on the orbits of the planets.

Not in scepticism, but in faith, the elder Herschel hour after hour walked his weary but observant rounds, fed by a sister's hands, and stopping not till he had finished his mirrors, not doubting they would in due time unfold to him the construction of the material heavens. And in a like spirit of a loving confidence his gifted son banished himself to the far South, till he had finished the work which his father had begun, and for all ages wrote "*cælis exploratis*" upon the escutcheon of their fame.

Not in scepticism, but in a spirit of faith, Dalton and Davy and Faraday laid the foundations of that astonishing advance in the domain of physics which we inherit in the arts, the conveniences, the embellishments, the intelligence of our daily lives.

But that which most astonishes me in this bold assertion of VICTORY THROUGH DOUBT is that it was made while the example of the saintly Faraday was still within living memory. No man con-

tributed more than he to the advance of human knowledge, but Faraday worked on, not because he doubted, but because his mind was full of the ardour of faith. Faith that Nature was established in Law ; faith specially in Him who gave the Law. And I know few episodes in the annals of science more touching than what was communicated to me by a deacon in the Church of simple-minded Christianity, to whom Faraday ministered the truths of Christ, according to the light in which he had learned to apprehend them. It was in Dundee, towards the close of his life, when his overtaxed brain and his memory began to fail him, he opened the Bible, and began his address to the poor and simple Christians to whom he was a deacon ; but he soon stopped, and in tones the memory of which still linger for good on the ears of some of us, he begged his audience to forgive him if his quotations from the Scriptures were sometimes not exact. " My friends," said he, " you know it was not always so," and, my informant added, his face shone as an angel's.

The sum of the whole matter is this : the great Father of the universe has ordained that in Nature, as in Grace, the victory of the children of light shall be, not by keen scepticism, but by a loving Faith.

If, however, for the words " keen scepticism," as the one source of the advancement of all know-

ledge, we could write "fair trial," or "honest experiment," or "personal research," then these philosophies and the New Testament would, so far, be at one. "Seek and ye shall find," is as applicable to the operations of Nature as it is to the promises of Grace. Nay, further, we affirm that the true prevailing cause of the rejection of the faith of Christ is that it has *not* been personally tried. It is like the rejection of gravitation by a mind refusing to submit to mathematical culture. Those burning and eternal words, "Come unto me," challenge a trial at the hands of all the weary ones, all the restless ones, all the bereaved ones in this troublesome though beautiful world. The light that shines from Bethlehem and Calvary and Olivet claims for its prerogative that it will illuminate all the dark passages, and mitigate if not remove all the dreary perplexities of this mortal life. Nay, more than that, it promises to supply a motive and an inner strength leading to the development of the human spirit into its perfection, and to satisfy its illimitable aspirations.

But the failing sand warns me to conclude ; and it shall be with another episode in that practical life which is referred to in the subject title of my address.

It has come to my knowledge and to that of

others, that, not very long ago, a preacher in the course of his office was addressing the members of an ancient university on that security of Knowledge of the Divine Grace which comes from the experience of a life-long trial. It is said that the preacher himself desponded—not wisely perhaps—of the result on the minds of the cultured audience to whom it was his duty to appeal. But in the course of the evening there was put into his hand a letter couched in the following terms: “A Manchester man, steeped to the neck in cotton, from sheer curiosity strayed this afternoon into St. Mary’s church. He was in great mental distress at the time, and all things seemed to him as a blank, but he there heard words of comfort which he takes as a voice from the Heavenly Father, and they will remain in his memory as a strength to the end of his life.” The “keenest scepticism” will not restore a man to his better self, who is steeped in cotton, or despondency, or sin.

L'ENVOI.

Religious men are apt to lay very much of the Atheism of the present day to the charge of scientific men. It may conduce to a more accurate apprehension of the fact, whatever the value of the fact may be, if it be understood that

not one among the scientific professors at either of our two ancient universities has written or taught antagonistically to the Christian Faith. And I believe the same assertion may be made in relation to their eminent colleagues in Scotland and Ireland.

But the truth is, the exact sciences do not so much as even *touch* on the question of the immortality of the soul, or on the existence of an Author and Governor of Nature. The true questions at issue are ethical and historical, not dynamical. For between the human will, the Ego, and the molecular dynamics of the brain a dark gulf of total ignorance is fixed, which not a ray from the light of science has ever traversed. In one sense, indeed, the question and the evidence are experimental; but the experiments cannot be made in the laboratory or in the dissecting-room: they lie amidst the hopes, the passions, the affections of the soul. Did Christ rise from the dead? Is the Gospel of the Apostle John substantially true? These and such as these are the vital questions. For nearly two thousand years that which has been best and noblest in the intellect of mankind has responded, "YES"; and that which has been wisest and loveliest in its heart has confirmed and maintained the response.

VII

THE SLOWNESS OF THE CREATIVE
PROGRESS

Discourse forming the first of a Course of Hulsean Lectures,
delivered before the University of Cambridge in 1866

THE SLOWNESS OF THE CREATIVE PROCESS

ISAIAH XI. 9 ; 2 PETER III. 8.

“They shall not hurt nor destroy in all my holy mountain : for the earth shall be full of the knowledge of the Lord, as the waters cover the sea.”

“But, beloved, be not ignorant of this one thing, that one day is with the Lord as a thousand years, and a thousand years as one day.”

THROUGHOUT the long roll of many centuries the thoughts contained in this promise of the prophet, and in this caution of the apostle, have animated the hopes or sustained the patience of God's true children in all their sad variety of pain. The promise that the seed of the woman should bruise the serpent's head ushered in the first dispensation of God's grace to man. Its reiteration in the last words of the Lord Jesus to His redeemed, “Behold, I come quickly,” closes the Canon of the Holy Books. It was the hope that the Messiah of their covenant

God should come to restore the land and the government to Israel, which alone dried the tears of those who had sat down to weep by the waters of Babylon, hanging their harps upon the trees that were therein. It was substantially the light of the same hope, in another and a brighter form, which alone illuminated the dreary catacombs serving at once for the tomb and the sanctuary, and, by God's providence, for the cradle of the early Church struggling in her agony. And once more, in times nearer to our own, it was the settled conviction that Christ their king would, in His own good time, come to them in royal form, claiming and avenging His own, which nerved the Waldenses to suppress their moans, and to look with undaunted eye upon their slaughtered saints,

"Slain by the bloody Piedmontese who roll'd
Mother with infant down the rocks."

By this hope then the Church of God, in all ages, has been, and is now, saved, and that not alone in her fiercer trials and rarer emergencies, but it is the unclouded confidence that Christ the king shall one day reign in righteousness and peace which shines as the one light within the Christian's dwelling, amidst bereavement or anguish or poverty or oppression or the canker of earthly hopes ; or in serener times is cherished as a lamp to the

Christian's feet and a lantern to his path, guiding and cheering him in the noiseless tenor of a holy life. I may add, it is the hope of this second Advent of Christ which is commemorated throughout Christendom this very day.

Meanwhile, where is the promise of His coming? For since the Fathers fell asleep all things continue as they were from the beginning of the creation. This was the insidious taunt which assailed the faith and tried the constancy of the early Church. They could count among their members not many wise men after the flesh. For the most part they had accepted the truth as it is in Jesus, not so much through the force of argument as through the persuasion of the logic of the affections and the yearnings of spiritual need ; hence for them the best, if not the only shield against these fiery darts of the evil one was the sacred experience of the regenerate heart, the witness of the Divine Spirit testifying to their spirits that they were the sons of God : it was impossible to doubt that He who had said to them, "I will come to you again," was a faithful Saviour, and they could hardly forget His words, "in patience possess ye your souls."

But if this hope deferred was a sore trial to the Christians of old, how has the force of that trial become redoubled to ourselves after the lapse

of 1800 years! For the fact cannot be evaded (and I have no desire to evade the fact) that the Lord of the Church still "delayeth His coming." It cannot be denied that the Religion of the Cross, that truest and highest "knowledge of the Lord," so far from "covering the earth," as yet extends not even in a nominal form over a fifth part of its population; and the familiar records of every day force upon us the unwelcome conviction that of no part of Christendom can it be said with truth, they neither "hurt nor destroy in God's holy mountain." In addition to this severe but necessary trial of the militant Church there is now super-added this gratuitous exaggeration of her trouble, that men who pass for the philosophers of the day would fain persuade us that the true reason of the slow progress, or, as they would invidiously term it, the failure of Christianity, lies in the fact that the religion of Christ, like other systems, has had its little day, has run its natural course, and in its turn, like other systems, is become obsolete. If this thought has any sting in it for ourselves, the smart perhaps may come from the consciousness of our own personal share in the hindrance to the progress of the Faith of Christ. But this is not all. There are those who sit in the seat of the interpreters of Nature who loudly assert, not alone that all things have

continued ever as they were of old, but that by the force of inevitable law, all that appertains to the world of matter, and to the world of intellect, and to the world of emotion,

“whatever stirs this mortal frame,”

must have continued, and must continue, as it was since the beginning of the creation. These bold interpreters of Nature, it would be unbecoming to use a stronger term, would fain have us believe that they have extracted from their mistress her choicest secret; and the secret is, that she everywhere raises her voice in protest against miracles, and ever has been, and must ever be, inexorable to the pleadings of human prayer.

If these allegations of the opponents of Christianity were indeed true, then I need scarcely say, of all men, we Christians must be most pitiable. But what is the reply to these calumnies of our faith, drawn, as they are said to be, from this alleged monotonous uniformity, this inflexible constancy of nature? The replies, I conceive, are twofold in their bearing. To one of them I have already referred, and it is one which requires no learning save the learning of the heart to understand or to supply. It is true that no one can fully appreciate its force who has not found, or has not desired to find, “the secret

of the Lord," be he the learned or be he the unlettered man. That reply was expressed in two short words by one of the ablest and most thoughtful philosophers who have lived in the respect and the affections of Englishmen in modern times. Speaking of the truth of the Christian faith as demonstrated by its formal evidences, Coleridge said with an emphasis which will sink the deeper the more it is considered: "Do not talk to me of the Evidences of Christianity;—*Try IT.*" And there is many a simple man and many a gifted man among us who could say, I have tried this faith, this effete, this obsolete faith, as some would presume to call it, and I have found that it fills me with peace; peace with the known which surrounds me, peace with the great unknown Father who is above and beyond me; it refreshes me with hope, it animates me with love, it endues me with inner strength to eschew the evil and to choose the good. "I know in whom I have believed, and am persuaded that He is able to keep that which I have committed unto Him, until that day." This is one reply which satisfies the man's individual self.

But for us—for us who are surrounded by all the appliances of learning, and furnished with the fruitful results of ancient and modern thought;

for us whose calling of God it is to go forth to the great outer world, clothed not alone in a panoply for ourselves, but who, having kindled our torch within the shrine of truth, are responsible for the sharing and the diffusion of its light to those who, sitting in darkness and the shadows of doubt, cry out, "Come over and help us"—what, I ask, are such as we to say to such as these? I answer, we may say at once and in general, slowness of progress is no sign of failure; on the contrary, slowness of progress in all that is enduring, is the great Law of the Universe. The creature is impatient, the Creator is deliberate. The creature, whose sum of earthly life is bounded by the threescore years and ten, hurries to and fro in the restlessness of his will; the Creator, sitting in quietude upon His eternal throne, upholdeth all things in the majestic leisureness of unbounded power. With Him "a thousand years are as one day." I think I shall be able to convince you that it is to overlooking this law of slow and deliberate action in the Divine government of Nature, that we may trace no slight part of the mental distress which harasses many thoughtful men at the present day. For this reason I propose this continuity of the law of slowness of progress, pervading the physical, the mental, and the moral universe—I

propose the analogies of this prevalent leisureness of the Divine action, so far as we are able to trace it and understand it, as the staple and the main argument of at least two of the Lectures which I am to deliver from this pulpit. It is to this that I shall shortly return.

And next, as to the undisturbed constancy, the monotonous uniformity of Nature, which at every stage of its progress is said by some writers to protest against the intrusion of miracle, and to render illogical the interposition of prayer ;— when I think of the scheme of Nature, so far as it is comprehended by us in this 19th century, my mind at once reverts to the grand, majestic, ceaseless march of the sun, with all that host of material systems which he holds together under the influence of his power. To us men, measuring, as we must measure, by our earthly cycles and by our tiny units of space, this stately march of the solar universe seems uniform in its rate, and definite in the point towards which it tends. But surely this uniformity of rate and this straight definite line of progress are only apparent, and arise solely from the incalculable sweep of the cosmical curve in which this universe moves, and from mere terrestrial time, as yet too brief to observe a deflection. Wait with the patience of God, and this vast universe will

have visited other regions of the infinitude of space ; new and it may be inconceivable circumstances will have intervened, new combinations of other forces will have been introduced, and the rate and the line of the stately progress will all be changed. And as it is impossible to indicate at what point of its cosmical orbit this universe may not enter into new circumstances and be subject to new forces, thus giving rise to hitherto unknown resultants—to Miracles, if you please to assign to them that name—so it seems illogical to say that the occurrence of such results during any particular era of the world's existence is *inconceivable*. So this earth and all that is on it and surrounds it, this Nature, as we call it, is after all changeful in its constancy, and various in its uniformity. Constant and uniform alone in this, that it is under the care of God, with whom alone is "no variableness neither shadow of turning."

And surely this steady, various march of the vast material Cosmos can hardly fail to be a type of the *moral* universe circling around the centre of infinite perfection in some marvellous orbit which is ever approaching and approaching the throne of God, yet never nigh.

With thoughts like these possessing our minds we are now prepared for the consideration of the

main subject on which I desire to engage your attention, viz. *continuity of slowness of progress as a law of created things*. I think that walking by the light of human knowledge—a knowledge which we ought never to forget has come to us through God's blessing on His own great gift of genius wherewith He has inspired favoured men, loyal to the responsibility of their calling—I say, walking by the light of science we shall find, *in the first place*, many indications of deliberate slowness of progress in the successive stages of the creation of the earth, ultimately fitting it with a marvellous and a loving foresight for the abode of Man. And, *in the second place*, after Man has appeared upon this elaborate earth, Man with all his latent vast capacity, I am sure we shall trace a similar slowness of progress in the development of his intellectual powers, and in his acquisition and storing up of human knowledge; and surely this knowledge is a creation also—the creation of the mind.

And I would then ask, if we shall have succeeded in tracing slowness of progress as a primordial law, which the great Creator has imposed upon Himself both in the material and in the intellectual parts of His creation, would you not, *in the third place*, expect to find a similar slowness of progress in the *moral* development of

man, in the restoration, in the building up his moral being into the image of God? would you not in fact *expect* to find a slowness of progress in the acceptance of Christianity in the hearts and minds of God's redeemed, if a revelation told you, as it assuredly does tell you, that the religion of Christ is the only means of perfecting their moral nature in the sight of a Holy Creator?

Or, putting this argument into another form, if we find, as we do find, this progress of the Christian faith slow, it may be even mysteriously slow, shall we not say that this is in analogy, in continuity, with those other arrangements for the progress of the material creation, and for the development of man's intellectual being, both of which we admit originate with God?

Now this is the main argument which I shall propose for your consideration: no doubt it will have a few ramifications, and I may be compelled to deduce from it a corollary or two not perhaps wholly expected from the premises on which the argument itself is founded. I think, for instance, it will be found to throw some light upon the interpretation which ought to be put upon certain portions of the divine revelation contained in the Holy Scriptures, not merely because the interpretation may be found rational and consistent, but because it is become necessary. And if the

mode of interpretation I allude to be true, then I think it will remove from some minds a load which has long oppressed them, as certainly it has removed it from my own.

Moreover, as we proceed with this argument, we shall now and then find occasion to pause for a moment from the observation of the law of continuity in slowness of progress, to trace the marks of exquisite beauty which never fail to accompany the growth of the things created, and to observe also the *Joy of Life*, in the midst of which, and by means of which, these creations themselves proceed.

My friends, if this stately slowness amidst beauty and life and joy be a law of Nature, one effect of such considerations upon any heart prepared and attuned by the Spirit of God must be that, even in the midst of the noise and tumult and hurry of the comings and goings in the world, that heart will once more hear the voice of Christ the Saviour, "Come ye aside with me into a quiet place, and rest awhile." Even so, Lord, abide with us.

I. And now, for the purposes of illustrating our argument, I must ask you for a moment to summon forth that divine creative faculty where-with God has lovingly endued us for the clearer apprehension of his manifold works. In imagina-

tion I must ask you to ascend with me some old Silurian hill on the primeval earth, ages upon ages before God had fitted it for the abode of man. Picture to yourselves some mighty stream like the Ganges or the Amazon rolling its waters from far distant mountains into an ancient sea. You observe the broad interminable belt of forest which, stretching inland further than the eye can reach, rises in wild luxuriance from the swamps which fringe the stream. You may trace there the majestic pine, the graceful fern, the erect gigantic moss, fluted and towering columnar reeds, and a strange fantastic undergrowth, unknown to the flora of the age of man. The oak and the elm, the sycamore and the noble acacias of the west, you will not find, for as yet they are not created. There are no cattle grazing "upon a thousand hills," for God as yet has not clothed those hills with grass. In the thick jungle of these primeval forests you will not hear "the young lions roaring after their prey," for as yet there is no meat provided for such by God. Those forests are tuneless of the glad carols of the birds, for as yet "the herb yielding seed, and the fruit-tree yielding fruit after his kind" are not created for their food. Apart from the low croak of the reptile, and it may be the shrill chirp of many an insect, there is the hush of the silence of

non-existence amidst those matted fronds, save when the voice of the Lord is heard in the thunder or the wind.

And if in the strength of this creative gift you still keep your stand upon your watch-place for ages beyond your power to count, you will see nothing but the decay and the renewal of that interminable umbrageous belt. The ferns will fade, the gigantic moss and the columnar reed will shrivel, and the pines will decay and fall to their mother earth, but all this only to make way for another and more luxuriant growth. And so for ages.

At length the scene changes, and through some mighty pulsation, some throb of the earth's bosom, ordained of God, you see the waters of the broad swampy margin deepen and deepen, and then pile upon pile of forest growth and forest decay are submerged and gone. But wait awhile for the lapse of years: I know not how many, for science as yet has found no unit for the measure of cycles such as these. Whatever the periods may be, the divine faculty within us concentrates and apprehends them all as but a whiff of vaporous time. Wait awhile, and then upon the broad silted margin of the everlasting stream piles upon piles of other forests again rise and decay, and by slow successive pulsations of

the uncompleted earth in their turn disappear beneath the swollen tide.

Now if in spirit you saw all this, and only this, would you be able to decipher the meaning of the riddle? Would you imagine, for instance, that all this mysterious prodigality of decay was a divine elaborate contrivance for the production and storing of fuel for the service of races of beings yet unborn? As you witnessed the successive growths and submergence of those forests, could you foresee or conceive in what way such an arrangement of things could one day materially conduce to the development of the genius of intelligent creatures who were destined to be in remote futurity the last and chiefest denizens of the earth? And if some bright messenger from the throne of God stood at your side, and at the beginning of the vision had told you how, in other forests of far different growth, the fowls of heaven would one day "make their nests, and sing among the branches"; if he had told you that cattle would graze upon a thousand hills, and that "by the springs in the valleys the wild asses should quench their thirst"; if he had told you that God would place upon the earth a being clothed in the majestic image of His own mind, to be the lord and master of created things; then I think that at the first you would receive

the revelation, though in wonder yet in thankfulness of spirit, and you would wait in the fulness of hope for the accomplishment of the promise. But if the vision proceeded through incalculable time, and for ages you had seen nothing but what, for want of better knowledge, seemed to you an endless prodigality of waste, would you in your impatience be tempted to say, Surely that bright messenger of God spoke to me in parables, for I see nothing, and for ages I have seen nothing, but a constant inflexible uniformity of Nature: as for the grass which he told me was to cover the hills, and the thousands of cattle which were to fill the plains, all such creations would be inconceivable, miraculous interruptions of that Nature which for thousands of centuries I have observed unbroken in its course. And as for the advent of that being who is to be the lord of that new earth, "where now is the promise of his coming, for since the beginning of the creation all things continue as they were?"

My friends, I have not been amusing you with some fantastic creation of the brain, but I have been reminding you of the mode of the divine action during one stage of the Creation. And there are many like it. Be it remembered that to this knowledge of the Lord's ways we have attained through the righteous and loyal use of the Lord's

gift. And one conclusion that we may draw from that knowledge is this, that God's mode of action in the material creation has been and is deliberate and slow, majestic in the composure of its leisureness. There is also another inference which I think naturally flows from the argument before us ; it is one full of hope and encouragement to man, and with that I shall conclude. The inference is this ; —as the *material* universe, so far as we see it, at length came forth from the Creator perfect in relation to its purposes, fraught with beauty and "very good," so also we may expect the progress of the *immaterial*, the intellectual part of us, though ordained to be equally deliberate and equally slow, will go on and on, embracing in intelligent perception one after another of the wonderful works of God, improving and improving, not alone in the clearness and amount of its intelligence, but in the comprehensiveness of its grasp and the grandeur of its capacity.

And in like manner, notwithstanding there is so much to grieve and to disappoint in the sin, and the misery, and the degradation, and the perversion of God's gifts which we see around us ; notwithstanding the acknowledged slowness of the progress of Christianity ; nevertheless, what I am permitted to see of the ultimately perfect results of a slow and deliberate action in other parts of

the Creation checks in me, and I hope in you, all despondency for the fate of our holy religion ; it removes all doubt that the Gospel of the Cross of Christ, possibly by its own divine native force, shall ultimately triumph ; and it animates us with a confident hope that the Spirit of Christ Jesus shall in the end subdue every heart to Himself, and then "the earth shall be filled with the knowledge of the Lord, as the waters cover the sea."

While I have been speaking to you on these great topics, my friends, it cannot but be that the thoughts of many hearts have been revealed to themselves. And are they not such as these ? Wherefore this hurry of mine, and this feverish haste for the result ? Is this work I am about, the work which my Father has given me to do ? —then like all God's other works it is to be done with constancy, with forethought, and with deliberate patience. I will cast my bread upon the waters, not looking for the harvest to-morrow or the next day, but in the fulness of faith, not doubting that I shall find it after many days !

And I think something of the same tenor must have been passing among the thoughts of those of you who now sit where I well remember sitting a full generation of man ago. Judging

from my own heart and from my own recollection, young men stand in need of an ever-present heavenly help to check, sometimes impatience, sometimes despondency, sometimes a proneness to judge before the time. To-day we have been considering the patience of God. In your finite measure strive to walk after that rule. Commit thy way unto Him, and He shall bring it to pass. Rest in the Lord and wait patiently for Him! If there is one frame of mind stronger and happier than another, it is *the mind stayed on God!* In the great Saviour's name PRAY FOR THAT.

CONDORCET'S PROPHECY

Towards the end of the last century there lived an accomplished philosopher in a neighbouring country, who in the highest posts of literary office had served it well, and had encouraged and advanced the various branches of the learning of the times. Those were the days of the public denial of God, and hence upon the men of those days there came the inevitable Nemesis of violence and riot. The man of whom I speak was proscribed, and fled into concealment.

In a solitary chamber, with one only friend to

visit him, this remarkable man, after many months of seclusion without access to a single book, sat down to the task of writing the progress of the human mind from the dawn of history ; that work accomplished, he began to record his hopes and conceptions of its future destiny. He was a man of great practical experience, and endued with a genius well tutored by adversity ; would that I could say he accepted the Christian Faith even in the mutilated form in which they who said they had the keys of knowledge, presented it to his mind.

Condorcet lived in this solitary chamber, thus unilluminated by the Christian's hope, just long enough to complete the outline of his great work, and then he was compelled to fly, and to perish with a miserable death in his flight.

" Deserted in his utmost need
By those his former bounty fed."

Now, what think you was the conclusion to which this accomplished solitary man arrived regarding the spread of goodness and knowledge among mankind ? He concluded that an amount of knowledge, and a force of genius, and a perfection of virtue, quite inconceivable to ourselves at present, would one day in the far vista of time certainly prevail throughout the nations of a

densely-populated world. Change these words into the "Knowledge of the Lord," and they approximate to the prophecy of Isaiah. Did Condorcet unconsciously see the shadows of the angels' wings who are sent from the throne of God for their accomplishment?

Accomplished that prophecy must be, but not by the means which the philosopher conceived. "Not by power nor by might, but by my Spirit, saith the Lord." So to this end the Divine Lord of His Church sends to one man the gift of suggestion, to another the gift of combination, by the same Spirit; to one man he sends the genius of patient investigation, by the same Spirit; to one man is given the word of wisdom, to another faith, to another prophecy, for the perfecting of the saints, for the edifying of the body of Christ, till we all come, in the unity of the faith and of the knowledge of the Son of God, unto a perfect man, unto the measure of the stature of the fulness of Christ. THEN THE EARTH SHALL BE FULL OF THE KNOWLEDGE OF THE LORD, AS THE WATERS COVER THE SEA.

"If by Thy decree

The consummation that will come by stealth,
Be yet far distant, let Thy Word prevail,
Oh! let Thy Word prevail, to take away
The sting of human nature. Spread the law,

As it is written in this Holy Book,
Throughout all lands ; let every nation hear .
The high behest, and every heart obey.

Father of Good ; this prayer in bounty grant,
In mercy grant it, to the wretched sons.
Then, not till then, shall persecution cease,
And cruel wars expire. The way is marked,
The guide appointed, and the Ransom paid."

WORDSWORTH, *Excursion*, Bk. ix.

VII

DIFFICULTIES IN BELIEF

An Address delivered to followers of Mr. Bradlaugh in Northampton
1882

ADVERTISEMENT

IN the following Address to the mechanics at Northampton, it will be found that several of the topics introduced have been already discussed in previous Essays. The peculiar circumstances of the Northampton workmen seemed to me, at the time, to indicate the selection which has been adopted. Thus the old picture is in a new frame, and the reader, if so disposed, can pass it by.

INTRODUCTION

THE following Address, delivered at Northampton in 1882, would not have been reprinted among these Essays, had it not been for the peculiar character of the audience, and the somewhat remarkable circumstances which occurred during the discussion which followed it. For, in point of fact, the main thoughts which this Address contains have already been expressed (and possibly more than once) in the writings which have here preceded it ; nevertheless the arrangement of these thoughts is different, and the whole Address may be regarded in the light of a general summary of arguments relating to some of the more prominent difficulties which are alleged to militate against the acceptance of the Christian Faith.

A few years ago I was requested, in conjunction with one or two other clergymen, by the Incumbent of St. Edmund's, Northampton, to address an assembly of Mr. Bradlaugh's adherents

in the parish church on certain topics which they alleged stood in the way of their acceptance of Christianity. The project seemed at first to be beset with perils, and to offer but little prospect of eventual good. But the perils in fact did not present themselves, and I have been assured on the highest authority that the permanent result has been the addition of many worshippers who hitherto had abstained from attending religious services.

The arrangements made for the delivery of these lectures included an Address on the Sunday afternoon, followed by a hymn. After this the congregation again met in the large parish school-room, at eight o'clock in the evening, when the subject of the Lecture was to be discussed, and replies given to such questions as arose in connection with the Address. In my own case I thought it advisable to conciliate the goodwill of my audience by the delivery of a Lecture on the preceding Saturday evening; the subject which I selected was *The Vast and the Minute in Nature*. The starry vault and its denizens illustrated the former; while the conflicts of the atoms in a gas, and the marvellous beauty of microscopic foraminifera furnished the topics relating to the latter. The whole was designed as an introduction to the general Address, and is alluded to therein.

The projected discussion in the schoolroom

on the Sunday evening had presented to my mind considerable apprehensions ; but so far from any *contretemps* arising, it passed off with the expression of goodwill towards myself. For a time the questions referred, strange to say, to expressions in the Athanasian Creed ; I presume that Unitarians, rather than adherents of Mr. Bradlaugh, abounded in the room. I might have evaded the queries by stating that in my Address I had not entered upon or alluded to these great mysteries of our religion ; but I availed myself of the opportunity of so far expressing my sympathy with a portion of their difficulties by stating that, although my own mind was fully convinced as to the truth of the main articles in this ancient hymn, nevertheless it had been a subject of regret with many devout persons that these articles were expressed in language not found in the Sacred Scriptures ; and I told them that not long since I had received a letter from one of the most devout and devoted of Churchmen, the late Lord Chancellor Hatherley, in which he said that he did not consider any Church or Society of men authorised to affix pains or penalties, expressed or implied, for the non-acceptance of a religious doctrine not expressed in the *ipsissima verba* of Scripture. I was glad to make this admission, in order that it might be seen that orthodox clergymen are not the un-

reasonable or unreasoning men they were often presumed to be, and I think I succeeded therein.¹

I was somewhat surprised to find that my sceptical opponents were so little versed in the real drift and strength of their own assumed opinions: for the most part they follow, as it seems to me, the *dicta* of the more vivacious leaders whom they have selected, whether from conviction or from fashion, and have personally but little worked out the causes or the consequences of their own objections.

At length there rose up, amidst considerable applause, a gentleman who seemed to be a Coryphæus among them. He said that one result of his own studies had been the conviction that the form of religion in any place very much depended on its latitude and longitude, and he therefore

¹ In the year following this conference at Northampton, it chanced to be my lot to be anchored on a steamboat off Luxor on the Nile on a Sunday. The sounds of our hymn, sung at morning worship, must have been echoed over the desert from the walls of the temples of Carnac, hard by. Our dragoman, a fine tall Mussulman of remarkably dignified bearing, and of great natural intelligence, was listening to our service. That concluded, I took the opportunity of venturing a few words to him in relation thereunto. My friend drew himself up, and at once stopped the conversation by saying, "Sir, I am a Mahometan, not a very good Mahometan, I fear, but I hope to be better: you Christians worship *three* Gods, Mahometans worship but One." I regretted that the ancient Christian creed was so worded as to lead to the Mahometan's misconception of its meaning.

"wished to ask the learned Lecturer whether in any place it might be lawful to worship a crocodile." He sat down amidst applause even greater than that which occurred when he rose to put this presumed annihilating question.

I remarked that I so far agreed with my ingenious friend, that it did seem a fact that locality and surrounding circumstances modify the purely external forms of religion, and that if my friend lived in a country abounding in crocodiles, and if nothing within his own mind and spirit, and if nothing external to them, suggested a different form of worship, then he had better worship a crocodile than nothing at all; but inasmuch as my friend lived in the beautiful town of Northampton, where I had failed to find either zoological gardens or an aquarium, if he in Northampton elected to worship a crocodile in lieu of any other object of worship, or no worship at all, then the responsibility rested with himself. It was now the Lecturer's turn to hear the notes of approbation, and my objecting friend found nothing to reply, notwithstanding the symptoms of mirth which were exhibited around him; and I have since been told that his influence among his sceptical colleagues has greatly declined.

NATURE, MIRACLES, AND PRAYER

YESTERDAY evening I had the pleasure, may I say the responsible privilege, of addressing, I hope, the greater part of those now present, on the inconceivable immensity and multiplicity of the natural things amidst which we live, and move, and have our being. Inconceivable in their magnitude, in their distances, and in their astounding numbers, I spoke to you of millions of systems or sets of universes ; each system or set, like our Milky Way, containing many millions of suns, and each sun surrounded by its own, possibly and probably habitable worlds, or at all events by one habitable world. And then I spoke to you of something which always excites more deeply my own astonishment, viz. that conflict of myriads of millions of millions of atoms within a little glass vessel, which enables the water in our pumps to rise, and the gas we consume to give us heat and light. So much, then, for the lifeless, inorganic materials which either form a part of or surround

the abode of man. I then remarked that unless these inconceivably numerous portions of matter, great and small, but all in a state of violent motion, were constructed and regulated in accordance with some, to our conception, stupendous schemes or plans, the result would not be the beautiful order of things which we daily experience. We should, in the absence of a Scheme, be surrounded by turmoil and confusion, and by the uncertainty, nay, the impossibility of life, amidst the interminable chaos. The vast universe around us, and of which we men form a part, must therefore be constructed and regulated on some mighty scheme, at least as much a scheme as you daily see in the ingenious machines you use. Now amidst all this magnificent universe man, as you know, is placed. An atom of sand, you might say, amid myriads of sandhills; but on reflection you will correct your estimate of the poor significance of man. For man, each individual man, is far more wonderful, and far greater in the scale of being, than are all those innumerable universes of matter that I spoke of put together. In a strong sense he is the lord and master of the world in which he lives. Think, for instance, of the intellect of man; it pierces beyond the universe of stars; it counts, it weighs, and it measures them. He avails himself of their orderly movements for the regulation

of his calendar ; and he makes the stars, in their nightly revolution, subservient to the navigation of his ships. He calls forth the lightning that is hidden in a drop of water, and he makes it convey his messages, with its native speed, across the world—across the bed of the Atlantic, or the Indian Ocean ; or else he bids it illuminate his cities in the darkness of the night. His mind deals with the immensities around him, and therefore claims affinity with the infinite.

But far beyond the power of his understanding, man is endowed with affections ; he can love, oh ! how tenderly and faithfully ; he can hate, oh ! how bitterly, and without remorse. And then think for a moment of his wonderful memory ; the events of his own life's history treasured up in its recesses ; and yet all that life's history, unfoldable, reproduceable in its general detail, within the space of a few minutes. Think, again, how his mind refuses to confine its workings to the immediate things around him : with irrepressible, passionate curiosity it insists on asking—" Whence am I ? What am I ? Whither am I going ? " Amidst all the grandeur of the innumerable worlds, man then, even as an individual, is not the mere grain of sand on one of a myriad of sandhills, but is intrinsically greater than the things he sees. Each man, I say ; myself, and not another. For each can say, or he has the

capacity to say, to the Lord and Governor Himself of this mighty universe, "My God, my Father, and my Friend."

And now, just for a moment, think also of the wonderful abode in which man is placed, and of which he is partially the master. He is everywhere surrounded by materials by which, through genius and diligence, he may improve and exalt his condition. Think of the uses which he makes of the metals, for instance: those metals stored away in abundance within the recesses of the earth, but within the reach of his industry. Without these metals he must remain a savage. The bones of fishes would be his needles; his saws, and axes, and chisels would be found in flints. His navigation would be performed in the hollow of a tree, laboriously scooped out with a stone; his voyages limited to his native coast, or the islands close to his shore. Think by what hand, by what provident mind, these metals were thus stored. And then think of the beauty that surrounds him, for his refreshment—the starry heavens, the rainbow, the ever-varying shadowy landscape, and the inexpressible loveliness of the flowers. And yet if this being, thus placed and thus endowed, so wills it, he may degrade himself below the brutes; his choice ranging from what we call the God-like to the diabolical. No human being is made as a

machine : he is free to choose. And then comes the irrepressible question, "What does all this mean?" It is impossible not to feel assured that man forms a part of some plan ; he must be a link within the chain of some grand scheme. What is this plan? What is that scheme? Whence am I? Whither am I going? And if, with some impatience, some among you may say it is impossible to discern the scheme, it is all "unknowable" ; if you say man's real business here lies in the present only, and in making the best of what immediately surrounds him ; then I rejoin, "What, then, *is* that best that he can do in this present with all that surrounds him, not with a part of it only?" And as to his questionings about the future and the unseen, why you cannot stop them ; they are a part of his nature ; his longings are irrepressible. The "whence" and the "whither" are bound up within the recesses of his being. To stifle them you must unman the man. Now, the material things around him—earth, and sun, and sky—can give him no clue to these obstinate questionings. Something, however—something deep within his own being—something that he cannot either fathom or silence within his heart, whispers, at all events when the man is quiet and away from the world's din, that his body, after all, may not be the whole of himself ; some-

thing whispers that his material frame is not the thinking, living self. It would be a hard task to persuade him in the calmness of the night, or on a sick bed, or in trouble, that memory is, after all, only a mode of motion, love a mode of motion, hate and jealousy only a conflict of atoms. Nor can a fair and prudent man overlook the fact that in all ages the wisest and best men, from Socrates and Plato downwards, have believed and have taught that there is an after life of the man's real being in the unseen world ; memory, knowledge, affection, all active there in that unseen world, only in a more exalted, freer condition. This all good and wise men of old hoped for, but confessed it was not more than a hope. They groped for certainty, if, happily, they might find it. Plato, in one of his most touching dialogues, concluded that it was safe for a man to pray to God, and he expressed his conviction that one day God would send some teacher on earth, who should instruct men as to prayer and immortality. And observe what, after all, makes this question of a future life, this question of the whither, of so much importance to us, is because man certainly is a part of some great scheme, and the question comes, "If after death he continues to live on, under this great scheme, what will his condition then be?" If the scheme of human life, after death, at all resembles the present scheme in

which we live—resembles it in its essence, and not in its accidents—then the *consequences of actions* will follow the living man ; and although in the present scheme, no doubt, bad men rise sometimes to eminence, and good men are sometimes overlooked, yet after all, even in this world, the essence of the course of things is that no bad man is in this world rewarded *because* he is a bad man ; nor is a good man depressed or punished simply *on account of* his virtue. Nay, the contrary is the general tendency of things even in this world. And in this way hopes and fears as to the nature of the scheme in which man, after death, may have to live, are natural ; or, rather, are unavoidable to man. He cannot avoid this hoping or fearing. But, after all, these are hopes alone and fears alone—they are not sure and certain hope. Nature, the things around us, tell us little or nothing as to a world beyond the grave. The Nature within us gives us, indeed, longings ; gives us uneasiness, hopes, fears, and probabilities ; but it gives us nothing more. Now, amidst this darkness, amidst this dim suggestive light of Nature, history comes in : a history the general facts of which it is impossible to deny ; no true, no sane man, ever did deny the general features and the general scope of the records of Christ's life. I am not speaking of the

details, but the fact simply of the life and the death of Christ. He certainly did live—He certainly did teach—He certainly died upon the Cross. The history states that about two thousand years ago there appeared a man upon the earth, reared among a most singular people, whose singularity remains unmistakeable to the present hour, for no man can mistake the physiognomy of a Jew. This wonderful man unquestionably spoke and taught as no man had ever spoken and taught before. That is a matter of fact. His sayings and His teachings remain among us to this day, and they have changed and improved the habits and ways of thought of the civilised world. The records of this wonderful Teacher leave no doubt that His character was incomparably the most virtuous and exalted that had ever been exhibited before men. He went about doing good ; that is a certain matter of history. The record further states of Him that He, at all events, *claimed* to be sent forth from the Lord and Governor of the Universe, in order that He might make known the will of that Lord and Governor as respects man, and as respects the destiny that awaits him in the unseen world after death. The record states that He claimed to be the Son of God in a strong and intimate sense, such as no being before or since has ever claimed:

He plainly taught the immortality of the soul—a revelation only hoped for by Socrates and Plato, and by the best among the ancient sages. He taught that God was our Father, and that He sought for His earthly children's love. "God," said He, "is no respecter of persons, but in every nation he that feareth God and worketh righteousness is accepted of Him." And again, "God is a Spirit, and they that worship Him must worship Him in spirit and in truth ; for the Father seeketh such to worship Him." Now it is quite certain that no other teacher or prophet had ever before, in the course of the world's history, laid such claim to a filial relationship to God. He plainly declared that He was more than man. But where was the proof of this new, this hitherto unheard of claim? To say that He taught more wisely than any man had ever taught before amounts to no more (but it amounts to no less) than this—that He was the wisest of all human teachers. But if He be more than man, then, of necessity, He was stronger and more powerful than man ; and the only way to make good that claim was to exhibit superhuman power, and, I may add, superhuman goodness also. And so, in fact, the record tells us that He went about doing wonderful works of goodness and love. He healed sick men, the record tells us he healed them at a word ; at a word,

the record says, He made the dumb to speak, and the deaf to hear : by His voice, it says, He hushed the storm, and there was a great calm. He is said to have raised a poor widow's only son to life, and to have restored the friend that He loved to the affectionate family who, above all others, had shown Him a reverential respect. Now, let us remember that He said Himself that He was superhuman ; He claimed to be more than a man. But where was the use or the truth of such a claim if He who made the claim did not prove His words by deeds ? Such a claim, apart from the exhibition of superhuman power, would have been—I dare not say ridiculous or preposterous—but it would have been, at least, puzzling, inconsistent. There would have been a missing link had this wonderful Being shown no wonderful superhuman work—if he had exhibited no miracles, as we call them. Further still, the record says that Christ Himself appealed strongly to His wonderful works—all of these works, works of love and mercy, let us remember. “If ye believe not my words, believe my works.” “If I had not done among them things that none other men have done, they would not have had sin” in rejecting me.

Now it has been alleged—and here lies the gist of all my remarks—that this record of Christ cannot be reasonably believed, because these

miracles are utterly contrary to the laws of Nature. There must be some grievous mistake, some error or misrepresentation, accidental or intentional, in the record, it is said ; for Nature is uniform in her operations. The operations of Nature, it is urged, go upon a fixed plan, and it is contrary to all Nature, it is said, that diseases should be cured at a word, or the dead restored to life at human command. This is contrary to all experience, contrary to the order and the laws of Nature. The record, it is argued, is, on that account, certainly at fault.

Now it is here then that the issue is joined. It is strongly and confidently affirmed that the miracles recorded of Christ are contrary to the uniform laws of Nature ; and this contrariety is alleged as an unanswerable argument against Christianity. To this, I think, I have a most valid, satisfactory, and complete reply. I would ask, for instance, what is this NATURE, of whose laws you say that the miracles of Christ are violations ? Surely by Nature must be meant all that exists, or has existed, or can exist, whether in the universe of matter or the universe of thought ; seen, or unseen. Whatever actually is, is a part of Nature. And what are these laws of Nature which we so strongly appeal to ? By the laws of Nature I can only properly mean the scheme or

the plan on which things are constructed and are carried on. A small part, and a very small part only of this scheme, man becomes acquainted with ; enough only whereby to regulate his own life. He knows the law of gravitation, for instance ; that all material bodies attract each other, after a fashion ; and, mark you, he knows even this little part of the scheme of Nature simply because under like circumstances like events have taken place. He knows some little also of the laws of heat and of light, because he finds again that under the same circumstances the same phenomena of light and of heat occur. No human physician has ever been known to cure a disease by a word—but by a dose of quinine certain fevers have been uniformly allayed. These, then, are parts of the law, parts of the scheme or plan of natural things as far as we see them. Remember, it is alone from observing that certain circumstances have hitherto always followed certain others, that any law of the plan of Nature is arrived at, or even guessed at. There must be many, many repetitions—repetitions of like concurrent circumstances, else no law or plan in the scheme of Nature is, or can be, discoverable.

Now tell me, how often has a Being come among us, claiming to tell us from the unknown world what it concerns us beyond all things to know, but which without such message cannot be

known? Such an event has occurred but once in the world's history. If such a Being did proceed from the unknown world He would bear, He must bear, superhuman tokens with Him; and this is just what the record says He did. The message, the claim, the environments are *unique* in the world's history; and the record says He performed superhuman acts. The sequence of the environments, the miracles, that is, cannot be foreseen or judged of, if not immoral. The whole question, in fact, is a question of the veracity of the history; it is not a question of experience, not a question of the law of the scheme of Nature. This scheme of Nature is, as I have said, far too vast for us to form notions of, excepting so far as what comes daily and repeatedly—repeatedly before our eyes. Think of the innumerable suns and worlds of which I spoke last night, and of the still more marvellous world of atoms in the little box of air. The truth is that as to the scheme of Nature, as to the plan of the universe, we must be content to be learners, not critics; still less can we be prophets. We have no valid reason whatever to say of this event, or of that, that it is contrary to the laws of Nature, until we have had repeated and repeated experience that the alleged miraculous event did not happen under the circumstances of the case in point.

Now, amidst all the centuries of man's sin, and of man's ignorance, and of man's suffering, and of man's longing to be freed from sin and ignorance and suffering, never but once has there appeared on this earth a Being who said that He came from the unseen world, as the Son of God, for the purpose of delivering man from his ignorance, and sorrow, and degradation. Once for all, this wonderful Being proclaimed immortality to man : He proclaimed, once for all, that God loves and seeks for the love of His creatures on earth. Once for all, the record says that He performed almost ceaseless acts of superhuman power ; but, be it observed, these all were acts as remarkable for their love as they were for their wonderful power. Once for all, the record says, this wonderful Man died upon the Cross for the sin of man. Once for all, the record says, He rose from the dead in token of a sure and certain hope of our resurrection also. The advent of this solitary, of this unique Man, stands alone as the most momentous event in the world's history. You may, if you see good reason, question the truth of the history ; you may, nay you ought to examine and criticise the truth of the record, if you have really the means of so doing at your disposal ; but there is another thing that you cannot with any show of reason do, and that is, you cannot declare that the miraculous

history of Christ is contrary to the laws of Nature. You must understand *all* the plan, *all* the scheme of Nature before you can say of such a history that it violates its laws. If the history be true, it is itself a part of the scheme of Nature, and such it claims to be. *It claims to be natural.*

Now, my friends, I will propose to you a test of the truth of this wonderful Gospel, this good news of God's love to man, which test every one of yourselves may apply. Christ in this history, in this Gospel recorded once for all, promises peace of mind ; he promises virtue in life and a loving heart to any man who will try to live the life that He enjoins, and in the way that He demands. The offer and the promise are open and free to all men—free as the air we live in. "Come unto Me, all ye that travail and are heavy laden, and I will give you rest." The chief, the proper, the universal test of the truth of Christianity then, lies in the two little words—Try it. Try if it be a law of Nature ; try it.

I come now to a necessarily very brief discussion of the second subject of my promised address to you—to the question of prayer to God. You need not me to tell you this is a very solemn question. I know there have been men who call themselves, and are called by some others, philosophers, who treat the bare thought of prayer with

disdain. They tell you that the laws of Nature are fixed and unalterable, and that no amount of childish entreaty can stay the fall of a house, if the foundation be rotten ; or the course of the cholera, if the habits of the people be not clean. They ridicule the idea of so poor a thing as man changing the purposes of the Supreme Ruler of the Universe, at the importunity of an impatient wish. The laws of Nature will and must take their course. One among these materialistic philosophers has illustrated his objection by pointing to a flower. There may come, he said, a storm, born in the Atlantic Ocean, and that storm itself preceded by certain inevitable changes there, which shall sweep across the land, and the hour and the moment are fated when and where that flower shall be thrown upon the ground. All the prayers of a nation could not, he says, prevent the storm or the falling of a single petal. So our philosopher says. But we shall presently see how far all such objection to prayer can be removed. First of all, then, the real object, the real nature of prayer is mis-stated by our philosopher : to that I will revert soon. And as to these laws of Nature being fixed and unalterable, I reply, it probably may be, or is so. But what are these laws of that vast, immeasurable, incomprehensible scheme of Nature to which you appeal ? Do you

in reality know these laws, all of them? Nature is too large a scheme for you to grasp. Do you know so much the origin and final issue of any one thing? And what do you know of the action of Mind and of Will in Nature? If there be a Supreme mind, a governing intelligence, how do you know that the relations between my mind and those of the Supreme mind may not be changed: changed by an alteration *in mine*, and that consequences untold and untellable by man may not ensue? And as to the petals of the flower which are doomed to fall by the storm, born days or weeks before in the Atlantic—are you so sure it must fall? What if a friendly hand, guided by a friendly mind, interposed a screen? What if my neighbour had built up a haystack before the storm arose? What then of the falling flower and the storm born in the Atlantic.

But then, again, we reply: You mistake the nature of the true prayer of the Christian. Prayer does not consist in childish, importunate requests to the Governor of the Universe. That wonderful Teacher, more than human, who set us an example that we should follow His steps, passed a whole life of prayer; but that prayer was, not that the stones might be made bread, to appease His hunger; was not that He might be held up, if He cast Himself down from a precipice; that prayer was

not that in His agony He might be taken off the Cross ; but it was, "Father, not My will, but Thine be done." "Not as I will, but as Thou wilt." That, after all, is the true model of the true Christian's prayer. Not simply, may the cholera be stayed, or the storm be appeased, or the rain or the drought be removed ; but the wiser prayer would be, "Father, not our will, but Thine be done ; if it be possible, relieve us ; if not, impart to us resignation to Thy decree." For, observe, the law of prayer is not that we are necessarily to obtain the very thing which it may be, after all, unwise for us to ask, or noxious for us, or impossible ; but the law of the promise attached to the Christian's prayer is, "Peace of mind ; peace of mind." The Christian doctrine of prayer is this, "In everything, by prayer and thanksgiving, let your requests be made known unto God," and then what is to follow ? Is it promised that every request shall be granted ? Ah ! no. What bitter calamities would then be the issue of some of our ignorant, passionate, foolish prayers. No ; He who bids us "Pray without ceasing" is wiser to us than we to ourselves. The injunction is, "In everything with prayer and thanksgiving let your requests be made known unto God," and the promise is, "and the PEACE OF GOD, which passeth all

understanding, shall fill and keep your hearts." And again, "Thou shalt keep him in perfect peace whose mind is stayed on God." So when the mother, as she hears the howling of the storm, offers up a prayer to the Eternal Father that He would preserve her sailor boy, then tossing upon the waves, she cannot, or should not really mean that God should interpose His power and hush the winds on her behalf; but her heart's true meaning is that God may appease her fears, and give her strength and peace of mind to abide the issue. So her heart's true prayer is heard, whether her sailor boy survives the storm or no. In point of fact, the true, the main object of the Christian's prayer is the intercommunication of his own spirit with the Spirit of the Lord, and, through this intercommunication, to beget at length resemblance to that Spirit. A high and a mighty and a most wonderful privilege. Since the world was, in any of the religions of the world not Christian, in any of the teachings of the philosophers, hath it ever been heard that the Lord of the Universe has said, "Thou *shalt love* the Lord thy God?—not only fear and obey, but actually and sincerely love, the Lord thy God, with all thy heart." Love Him as a Father, plead with Him as a son, trust Him as an infant nestles in its mother's arms and fears no evil.

That, that, my friends, is true communion with God, that is Christian prayer, that is Christian faith ; that is—shall I say it?—that is the great, the wonderful Law of Nature, as the Author of that Nature has Himself framed it. Obey that Law. Try whether it be the law or not. Try it ; and so, “ Lift up your hearts.”

IX

THE MIRACLE IN JOSHUA—
THE BATTLE OF BETH-HORON

14

THE BATTLE OF BETH-HORON

It will be remembered by at least a few of the more elderly of the readers of the *Guardian* that some years ago I rescued the great miracle of the Star of the Magi from an attempt to explain it, or explain it away, by a reference to the natural cause of an ordinary astronomical phenomenon, taken advantage of by the Providence of God.¹ The thought is said to have originated with that truly great astronomer Kepler, who assigned the phenomenon of the Star of the Magi to a remarkable conjunction of the planets Jupiter and Saturn. Perhaps it may be here advisable to remark that the technical phrase "conjunction" does not necessarily imply any very close proximity. It was indeed a considerable feat for Kepler, in his day, to compute the circumstances of a phenomenon which had occurred so many centuries before; but not having the proper means and methods at his disposal, he

¹ Repeated from Essay X.

assigned a much closer proximity to the two planets than the true state of the case warranted. The suggested explanation was first brought to public notice in England by the late Dean Alford, who, from the German authorities to which he referred, stated that the two planets appeared in the heavens so close together that to ordinary eyes they formed a single star of surpassing brightness, and in this condition "stood over the place where the young child was." I was struck with this account, but I somewhat doubted its accuracy. Happily, as one result of my old Cambridge education, I was enabled to set to work and compute for my own satisfaction the exact position of the two planets throughout several years contiguous to B.C. 6. Accordingly, I found in that year three conjunctions of the two planets, one of which was visible at Jerusalem; and the two preceding conjunctions might also have been watched by travellers during their slow and distant journey from the remote East to Jerusalem. Perhaps it ought here to be mentioned that the orbits and motions of the two planets are such that in certain recurring epochs three conjunctions must take place in one and the same year. This certainly was the case in the year B.C. 6. But after careful calculation I found that the two planets could not have approached nearer

than by two apparent diameters of the moon—a distance which precluded the possibility of their appearing to form a single star. Independently of this, it was easy to show that no known astronomical phenomenon could accord with the statement that it stood over any particular house in Bethlehem; and as to the two planets in question, if the direction of the apparent motion of the two planets during an evening had been followed by the Magi, they would have been led, not to the hill of Bethlehem, but more probably into the pools of Solomon! Thus the great miracle which ushered in human redemption remains undiluted by any known or knowable causes connected with such laws of Nature as those with which we have to do. The details relating to the preceding investigations will be found in the *Dictionary of the Bible*, in the two articles headed “Star of the Magi” and “Jesus Christ,” and the technical parts of them are recorded in a memoir printed in the *Memoirs of the Royal Astronomical Society*, vol. xxv.

The great question of miracles in general remains still to be discussed; but I think an interesting contribution towards it will be found in a paper which I read a few years ago before the Church Congress at Swansea.¹

Strange to say, there has again, and very

¹ Essay X.

recently, cropped up another attempt to explain—though I am far from saying to explain away—another of the most important and sublime among the miracles recorded in the Bible, by a reference to natural causes—in this case to an increase in the intensity or amount of atmospheric refraction. I refer to remarks which, though they in fact originated many years ago, have again reappeared in popular treatises. In this case they apply to that sublimest of narratives contained in the tenth chapter of the Book of Joshua:—“Then spake Joshua to the Lord in the sight of Israel; Sun, stand thou still upon Gibeon, and thou, Moon, in the valley of Ajalon. So the sun stood still in the midst of heaven, and hasted not to go down about a whole day.”

Before I proceed to show that no amount of increase in atmospheric refraction could in the slightest degree explain the marvellous phenomena of the sun and the moon standing still for “about a whole day,” or even, as our author adds, for “perhaps some hours after they have set,” or even for a single hour, it will be necessary for the reader to recall the singularly interesting circumstances of Joshua’s battle of Beth-horon. The materials for the history may be found partly in Dean Stanley’s *Sinai and Palestine*, partly in Dr. Robinson’s *Researches in Palestine*, vol. ii., section

13, June 9, and partly by consulting the seventeenth sheet of the magnificent Atlas of the Palestine Exploration Fund. We may thereby follow the heroic captain of the hosts almost mile by mile along the road which led from Gibeon, through the two Beth-horons, down to the valley of Ajalon, and then back to the caves where he slew the five kings, and, in fact, throughout that most memorable day, of which it is truly said, "There was no day like that, before it or after it, that the Lord hearkened unto the voice of a man." In order clearly to understand the sublimity of the miracle and the utter futility of the explaining it in the slightest degree by any increase in the intensity of atmospheric refraction, it will be necessary to follow the flight of the discomfited Amorites from Gibeon to Ajalon. Nor will the reader find it without its interest.

It will be remembered, then, that the Israelites had recently crossed the Jordan in early spring; they were now encamped at Gilgal, between Jericho and the Jordan, about two or three miles from the latter. Gibeon lay at a distance of about twelve miles to the west of Gilgal, and the inhabitants of the former city had, through a stratagem, made their well-known compact with Joshua. After the invasion of the country and the fall of Jericho, the kings or sheikhs of South Palestine had

naturally banded together with a view of taking vengeance on Gibeon, and of expelling the invader from the land. Accordingly they were now encamped in full force near to Gibeon, which city they would infallibly have soon destroyed, and from thence march on to do battle with Joshua.

The Gibeonites in their terror appealed to Joshua for instant aid ; the peril and the crisis were great, and equally great they were for the nation of Israel itself, seeing that, if defeated either at Gibeon or at Gilgal, they would be chased across Jordan, and probably be exterminated. Thus a battle decisive in the world's history was at hand, if ever there was a "decisive battle" in the world. Joshua, perceiving the full significance of the situation, at once set off from Gilgal with his army ; and marching by night with haste through those heavy twelve miles, arrived at early dawn, or before the dawn, under the walls of Gibeon, just as the British forces marched by night to the works of Tel-el-Kebir. The Canaanites were evidently surprised, as the Arabs in Egypt were. How long or how hardly they resisted is not recorded ; but, in the sequel, they fled from Gibeon along the road which leads towards the two Beth-horons, just as the Arabs fled from Tel-el-Kebir towards Zagazig. It is not, however, so much with the surprise or the fight at Gibeon

that we have now to do, as with the nature and direction of the road along which the confederated Canaanites fled. It was probably the same road along which the Apostle Paul was conducted from Jerusalem to Cæsarea. It bore mainly to the west, but a little to the north. This direction of the road becomes of importance for the full understanding of the miracle which ensues. For about six miles from Gibeon it was probably rough and difficult, as Dr. Robinson found it when he traversed it some thirty or forty years ago, though centuries before that the Romans had improved it. About six miles from Gibeon, at the crest of the hill over which the road passes at Upper Beth-horon, it becomes a precipitous descent of some seven hundred feet in about two miles down to Lower Beth-horon. It is important to bear in mind that Joshua's face had been turned towards the west and a little to the north when he arrived at the crest of the hill in hot pursuit of the enemy, who were now rushing down the sharp descent before him. Shall the Amorites even partially escape? Will there be time left to complete their destruction, or will the terrors and hazards of that bloody day have to be repeated? These were questions naturally occurring to the mind of the heroic captain as he stood on the crest of that fateful hill. From the sacred narrative we gather that

Joshua now turned his face away from the fugitives round towards Gibeon, which had heretofore been behind him. There stood the sun right over the hills of Gibeon, between the south and the east, but much nigher to the east. (Dr. Robinson, in his itinerary, says that "Ajalon bears S. 66° W. from Upper Beth-horon": and, measuring from the map, Gibeon bears from the same spot about S. 60° E.) It was now, therefore, about nine o'clock on the morning of that memorable day—anyhow, it could not have been quite noon, as Dean Stanley supposes, when Joshua stood looking anxiously at the sun. The moon, too, now probably in its third or fourth quarter, stood nearly west of him, but a little to the south, over the valley of Ajalon. He would need their light, if his work for the deliverance of Israel was to be completed on that day. How long will the light of that day last? So with the voice of faith in his father's God, and, as Dean Stanley says, "With outstretched hand and spear, that hand which he drew not back when he stretched out the spear," he stands and he cries in the sight of Israel, "Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Ajalon. And the Lord hearkened to his voice, and the sun stood still, and the moon stayed until the people had avenged themselves upon their enemies, and it

hasted not to go down about a whole day." The pursuit continues down the precipitous road to Lower Beth-Horon, perhaps two miles distant, and downwards still towards the valley of Ajalon, six or seven miles further on. Meanwhile the five kings endeavour to secrete themselves in one of those caves which abound in the country. Joshua, however, delays not for them; he orders the mouth of the cave to be closed and he pursues the fugitives to their destruction. On his return, before the sun went down on that protracted and most memorable day, the five kings are brought out of their hiding-place, and meet their doom. Such was the Battle of Beth-horon, and, under such circumstances, it pleased the Lord to hearken to the voice of a man, and the sun and the moon stood still.

Now it has been recently affirmed that "*the simple natural law of atmospheric refraction would entirely explain the event.*" On examination it will be found that this "*simple natural law*" will no more explain the event than the conjunction of Jupiter and Saturn will explain the miracle of the Star of the Magi. Atmospheric refraction, when really understood, will not be found to so much as even touch the miracle.

The understanding and the settlement of this question require nothing more than a very elementary acquaintance with the nature of astronomical

refraction, but that knowledge must be clear and accurate as far as it goes. The average effect, then, of astronomical refraction is to very slightly *raise* the celestial bodies when they are viewed through our atmosphere, but that average effect is so slight that it requires a telescope, and generally a micrometer, in order to be conscious of its effects. When the luminary is very close to the horizon, or on it, or just below it, the sun or the moon may be raised *vertically* through an angular space about equal to their diameters, and slightly more if it be very cold. But these cases could *not* occur when Joshua first said, "Sun, stand thou still," for it could not as yet have been noon, and the moon was still over the valley of Ajalon. No doubt, if it pleased the All-wise Disposer of things to *increase* the refractive power of air, its capacity for *increasing* the *vertical height* of a luminary would be proportionally *increased*; but whatever this increase of refractive power be, no amount of it could keep a luminary apparently still in the heavens, for the "*simple natural law of atmospheric refraction*" is to apparently move a luminary vertically upwards, and in no degree whatever to the right or to the left of a vertical line. (Technically, refraction acts solely in a vertical plane, and does not in any degree alter the Azimuth.) Hence, in no conceivable way could refraction keep sun

or moon apparently still in the heavens ; it might, indeed, if altered egregiously in intensity *and in law too*, keep a luminary *at the same height* in the heavens ; but it could not keep it apparently *still*. Either inattention to, or ignorance of, this true and simple law of atmospheric refraction must, I submit, have given rise to so very serious and mischievous an error, especially lamentable in connection with so sacred a subject.

Further still, in the case of the sun, one simple natural law of refraction must have been actually reversed during the first three hours or so after the voice of Joshua. For the natural sun was then *rising* in height, and, therefore, in order to remain apparently still, *refraction must have pulled it down !*

In the case of the moon matters I fear would be worse. For let us observe that the moon was not far from setting ; if we are to believe the sacred narrative it must have continued, apparently, there "*for about the space of a whole day.*" If so, before the termination of that great and notable day, the natural moon must have passed its lower culmination, and then the effect of the "simple natural law of refraction" increased in intensity, would inevitably bring the moon up to and above the *eastern horizon*, and by no possibility over the valley of Ajalon—a dilemma from which I cannot

rescue it. Such then is the fate of these ill-advised attempts to explain the *modus operandi* of the sublime miracle of the ever-memorable day of the Battle of Beth-horon by what is called natural causation, however intensified in amount. For the causation of miracles does not lie within the action of the laws which ordinarily appertain to this sublunary sphere of ours whereon our duties lie. On the other hand, and as I have urged before, that seems to me to be the happiest form of mind, which accepts the statements in the Sacred Scriptures in the spirit wherewith a child listens to his father's words. Far less happy, and probably far less wise, is the spirit which scans and criticises them as a lawyer reads a legal document. To me the records are, *in their general drift and intention*, substantially true. In the case of the Battle of Beth-horon, in which the very existence of the Hebrew nation was in peril, the narrative may be satisfied in its general drift and intention by the miraculous continuance of daylight which in a rude age, and to Joshua and his host, might seem to involve the staying of the courses of the sun and moon. The Star of the Magi will be equally satisfied in its general drift and intention, by the miraculous appearance of some divinely appointed light, shining as a celestial diadem over the cradle of the King of Kings. To each

of the two cases we may safely apply the words of Horace—

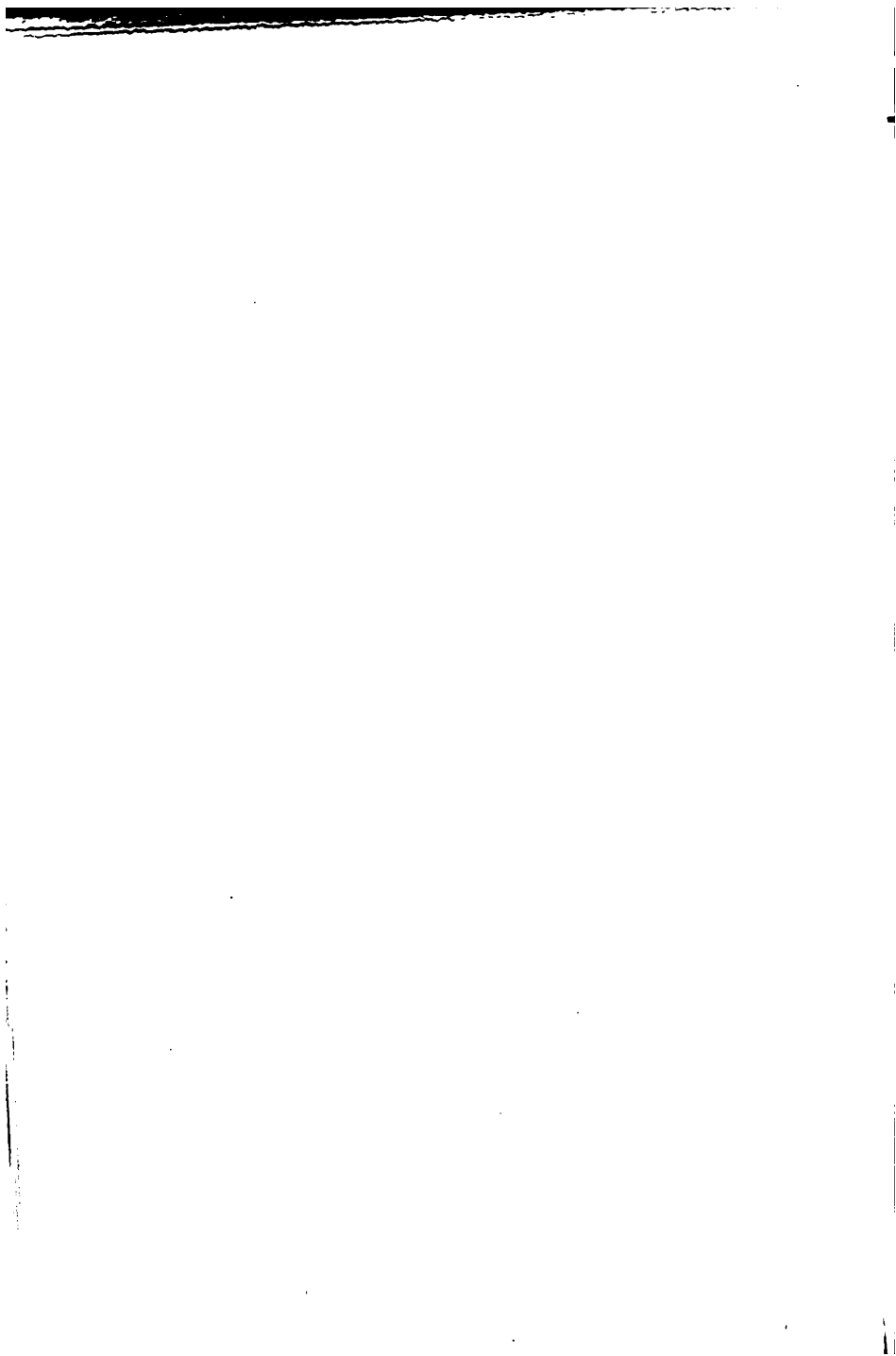
“Nec Deus intersit, nisi dignus vindice nodus.”

There is, however, another class of what, in some sense, may be termed minor miracles, which have most unreasonably met with scorn and ridicule from writers at whose hands we should have expected a graver mode of treatment. I allude to such miracles as the finding of the coin in the fish's mouth; the foretelling of the man who was to meet the disciples, bearing the pitcher of water; to the fire of coals kindled on the beach after their long night's toil upon the lake. To some minds, these may seem to be but trifles unworthy of any *special* interposition. But without again entering upon the nature and occasions of miracles already discussed, we may use a simple and more practical form of argument. We might fairly ask what would be the effect of the remembrance of such minute instances of a prescient concern, upon the minds of men like Paul and Silas sitting in the prison with their feet fast in the stocks? In a like spirit we may ask whether amidst the hourly perils and sufferings of the first preachers of the Gospel, the recollection of these instances of a minute and prescient carefulness would not recur to their minds again

and again, administering the support, and confidence, and consolation which they so greatly needed at every hour of their mission? When our Master was with us, did He not share our sufferings and foresee our needs? And did He not say: "I am with you always, to the end of the world"?

X

THE STAR OF THE MAGI



THE STAR OF THE MAGI

UNTIL the last few years the interpretation of St. Matt. xi. 1-12 by theologians in general coincided in the main with that which would be given by any person of ordinary intelligence who read the account with due attention. The interpretation would be after this fashion : some supernatural light resembling a star had appeared in some country (presumably Persia), far to the east of Jerusalem, to men who were versed in the study of celestial phenomena, conveying to their minds an impulse to repair to Jerusalem, where they would find a new-born king. It supposed them to be followers and possibly priests of the Zend religion, whereby they were led to expect a Redeemer in the person of the Jewish religion. It is needless to say that part of the above account of the Magi and their country is simply conjectural. On arriving at Jerusalem, after diligent inquiry and consultation with the priests and learned men, who naturally could best inform them, they were

directed to proceed to Bethlehem. The remark made by the Evangelist regarding the effect produced in Jerusalem by the arrival of these strange visitors on so strange a mission is significant as showing the publicity of the circumstances in question: "And when Herod the king heard it, he was troubled and all Jerusalem with him."

The star which they had seen in the East reappeared to them, and preceded them until it took up its station over the place where the young child was.

The whole proceeding, that is, was supernatural, and formed a part of that divine prearrangement whereby, in His deep humiliation among men, the child Jesus was honoured and acknowledged by the Father as His beloved Son in whom he was well pleased. Thus the lowly shepherds who kept their nightly watch in the plain at the foot of Bethlehem, equally and together with all that remained of the highest and best philosophy of the East, are alike the witnesses and the partakers of the glory of Him who was born in the city of David, a Saviour which is Christ the Lord.

Such is substantially the account which, until the earlier part of the present century, would have been given by orthodox divines of the Star of the Magi, and there are still the strongest grounds for believing that such also is substantially the correct interpretation of the Sacred Record.

Latterly, however, a very different opinion has gradually become prevalent on the subject. The Star itself, as such, has been displaced from the category of a supernatural light, and has been referred to the ordinary and periodical phenomenon of a conjunction or near approach of the planets Jupiter and Saturn. This idea originated with the illustrious astronomer Kepler, who, among other brilliant but untenable fancies, supposed that if he could identify a conjunction of the above-named planets with the apparition of the Star of Bethlehem, he would thereby be able to establish on the basis of certainty the otherwise very obscure and difficult question as to the exact date of the Annus Domini. Kepler's suggestion was worked out with great care and no very great inaccuracy by Dr. Ideler, of Berlin, and the results of his calculations do, on the first impression, seem to show a very specious accordance with the phenomena narrated by the Evangelist. I purpose, then, in the first instance, to state what astronomical phenomena did occur with respect to the planets Jupiter and Saturn at or somewhere about a presumed date of our Lord's nativity, and then to examine how far they fulfil or fail to fulfil (as they certainly do fail) the conditions required by the narrative of St. Matthew.

In the month of May B.C. 7 (*i.e.* about three

years before the generally accepted date of our Lord's nativity) a conjunction or near approach of the planets Jupiter and Saturn occurred, not far from the first point of Aries, the planets rising, in Chaldea, some time about three and a half hours before the sun.

It is said that (on astrological grounds) such a conjunction could not fail to excite the attention of men like the Magi, and that in consequence partly of their knowledge of the prophecy of Balaam, and partly from the uneasy persuasion then said to be prevalent that some great one was to be born in the East, these Magi thereon proceeded in their journey to Jerusalem. In the interests of truth it is well to bear in mind how much of the above explanation is founded on conjecture. Supposing, however, that the Magi set out at the end of May on a journey which it is just conceivable may have occupied some seven months or more, then in the course of that journey they must have seen the two planets slowly separating from each other until the end of July ; after this date, their motions becoming retrograde, the planets for a second time came into conjunction, *i.e.* into their position of closest approach, at the end of September. At that date, then, there can be no doubt that the two planets must have presented a very striking spectacle, especially through an

atmosphere which is reputed to be so clear as that in the uplands of the East. Moreover, the planet Jupiter was then at its most brilliant apparition, for it was then at that part of its orbit relatively to the earth when it would shine at its brightest. Not far from it would be seen its duller and much less conspicuous companion, Saturn. This glorious astronomical spectacle continued almost unaltered for several days, after which the planets slowly separated again, then came to a halt, when, by resuming once more a direct motion, Jupiter *for a third time* approached to a conjunction with Saturn just as the Magi may be supposed to have entered the Holy City. To complete the fascination and the suggestiveness of the tale, about an hour and a half after sunset the two planets would have been seen hanging, as it were, in the meridian, and suspended in the skies in the direction of Bethlehem in the distance. These celestial phenomena, thus described, do assuredly, on the first impression, appear to fulfil the conditions of the "Star of the Magi."

The first circumstance which created in my own mind a suspicion to the contrary, arose from an exaggeration, unaccountable for any man having a claim to be ranked among astronomers, on the part of Dr. Ideler himself, who described the two planets as presenting the appearance of a single bright but

diffused light, to *persons having weak eyes*. "So dass für ein schwaches Auge der eine Planet fast in den Zerstreuungskreis des Andern trat, mithin beide als ein einziger Stern erscheinen konnten" (p. 407, vol. ii.) Not only is this imperfect eyesight gratuitously inflicted on the Magi, but it is quite certain that had they possessed any eyesight at all, they could not have failed to see, not a single star, but two planets at the very sensible and considerable distance of double the apparent diameter of the moon. Had they been even twenty times closer, the duplicity of the two luminaries must have been apparent; Saturn rather confusing than adding to the brilliance of his companion.

This forced blending of the two lights into one by Ideler was, strange to say, still further exaggerated by Dean Alford in the first edition of his Greek Testament, who indeed restores ordinary sight to the Magi, but, *en revanche*, represents the two planets, thus in reality separated by a space occupied by two moons' diameters in the skies, as a *single star of surpassing brightness!* Exaggeration of this description, both on the part of the Astronomer and the Theologian, induced the writer of this Essay to undertake the formidable task of calculating afresh an Ephemeris of Jupiter, Saturn, and the sun from May to December

B.C. 7. The result of the investigations was to confirm generally the facts of the three conjunctions during the year, though somewhat to modify the dates assigned by Dr. Ideler. Similar results also have been arrived at by Encke, and the December conjunction has been verified by the late Astronomer-Royal, Sir George Airy, and perhaps no astronomical phenomena of ancient date are so certainly and definitely ascertained as the conjunctions in question.

The next stage in the investigation is to inquire how far, independently of the comparatively wide separation of the two planets when at the closest, their conjunction fulfils in other respects the conditions of the narrative, though it is hard to avoid a feeling of regret at the dissipation of so fascinating an illusion ; but we are in quest of the truth, rather than of a picture, however beautiful.

And, first of all, the writer must confess himself profoundly ignorant of any system of astrology ; but supposing that some system did exist, it nevertheless is inconceivable that on astrological grounds alone, men could be induced to take so formidable a journey of so long a duration. And then, as to the widely spread and prevalent expectation of some powerful personage about to present himself in the East, the fact of its existence

is referred to by the unimpeachable testimony of Tacitus, Suetonius, and Josephus. But it ought to be very carefully observed that all these writers concur in referring this expectation to the advent of Vespasian in A.D. 69, which date was seventy-five years, or two generations, after the visit of the Magi. The well-known and oft quoted words of Tacitus are "Eo ipso tempore," viz. A.D. 69; of Suetonius "Eo tempore"; and of Josephus "*κατὰ τὸν καιρὸν ἐκεῖνον*," all pointing to A.D. 69 and not to B.C. 7. Seeing, then, that these writers refer to no general uneasy expectation as prevailing in B.C. 7, it can have formed no reason for the departure of the Magi, unless indeed the rumour had been persistent through seventy-five years; in which case the "Eo ipso tempore" of Tacitus would be hard to explain. Furthermore, it is quite certain that in B.C. 66 (Pritchard, *Trans. R. Ast. Soc.*, vol. xxv.) a conjunction of Jupiter and Saturn occurred in the constellation Pisces, closer than the one on 4th December B.C. 7. If, therefore, astrological considerations alone impelled the Magi to journey to Jerusalem in the latter instance (B.C. 7), similar considerations would have impelled their fathers to take the same journey fifty-nine years before; and if it is conceivable that a knowledge of the obscure prophecy of Balaam operated on their minds, then there is no reason why the con-

junction phenomena which recurred every fifty-nine years should not have caused periodical journeys at similar intervals of time!

But even supposing that the Magi did undertake this journey at the time in question, it seems impossible that the conjunction of December B.C. 7 can on any reasonable grounds be considered as fulfilling the conditions in St. Matthew. The circumstances are as follows: on or close to 4th December the sun set at Jerusalem about 5 p.m. Supposing the Magi to have then (or soon after) commenced their journey to Bethlehem, they would first see Jupiter and his dull companion one and a half hour's distant from the meridian in a S.E. direction and decidedly to the E. of Bethlehem, which village is distant from Jerusalem by about a two hours' journey almost in a southerly direction. By the time they came to Rachel's Tomb (see Robinson's *Bib. Res.*, xi. 588) the planets would be due south of them, on the meridian, and no longer over the Hill of Bethlehem, for as seen from Rachel's Tomb that hill bears S. 13° E. The road then takes a turn to the east, and ascending the hill, terminates near to its western extremity (see the maps of Van de Velde, or of the Palestine Exploration Fund). The planets would then be on their right hand and a little *behind* them as they entered the village; the "star," therefore,

would cease altogether to go before them as a guide, and the case would be worse if they left the Jaffa gate at a later hour. Moreover, once on the hill, even if the star were not behind them as they proceeded along the village, it would be physically impossible for it to *stand over* any house whatever close to them, seeing that it would now be visible far away from the hill, on the side beyond it towards the west and the south, at an elevation of about 50° or more. As they advanced, the star would of necessity recede towards the west, and under no circumstances could be said even to appear to be *over* any house not distant by many miles from the place where they were. Thus the two heavenly bodies altogether fail to fulfil either of the conditions implied in the words "went before them" (*ᾠδῆγεν αὐτούς*), or "stood over the house where the young child was" (*ἐστάθη ἐπάνω*), and the beautiful phantasm of Kepler and Ideler, which has fascinated so many minds, vanishes before the light of an astronomical examination.

What has heretofore been said in relation to a conjunction of the planets applies with equal force to any other celestial phenomenon with which astronomers are acquainted. As for stars, comets, and temporary stars, they are all so exceedingly distant from our earth that, although

they may by their direction guide, for a time, a traveller towards a distant object, nevertheless, as that object is approached, the star will have receded far away in the distance beyond; and if the star be vertical in the skies, or nearly so, it will appear to be equally *over* every object in the neighbourhood. Nor will any meteoric phenomena within scientific cognisance fulfil the conditions of the sacred narrative, for all such bodies are swift in their motions and transient in their duration. There remains, therefore, but one solution of the apparition of the Star of Bethlehem, and that solution does not lie within the category of ordinary astronomical or meteorological phenomena. In its nature and origin it must have been essentially supernatural and divinely appointed to fulfil its mission. It shone as a beacon and a diadem of glory over the lowly chamber where the young child was.

XI

THE CREATION PROEM OF GENESIS

From the *Guardian* of February 10th, 1886.

THE CREATION PROEM OF GENESIS

THE unexpected appearance of men so eminent as an ex-Premier, a President of the Royal Society, and an Oxford Professor of Hebrew, as controversialists in respect of the meaning of the sublime Proem of Genesis is not only a remarkable phenomenon, but a sure indication that no satisfactory solution of the difficulties in question had hitherto been suggested. Of the latter fact I (and, no doubt, others besides myself) have been long convinced ; but as very many of my theological colleagues appeared to think otherwise, I judged that it was wiser not to interfere with a peaceful fallacy, and to let the subject sleep.

The case is now altered, and I propose to lay before those who care to read them such considerations as have occurred to, and have entirely satisfied, my own mind, after meditations on the questions at issue, extending at intervals now through half a century. Perhaps also the oppor-

tunities which have, in natural sequence, presented themselves during a long professional career both as a divine and as a student and expositor of Nature, may furnish a sufficient reason why I should now speak, and possibly receive some audience. In what I am about to say I desire to use great plainness of speech, and I hope also simplicity and sincerity in the mode of inquiry for truth. I shall aim at introducing no *finesse* or economies into the argument, but I will take the wonderful poem, for poem it is in a sublime sense, in its literal and grammatical and apparent meaning, such as it may be presumed a plain man on reading it would understand it to be.

Taken, then, in this plain and grammatical sense, this majestic Proem, if regarded as an account of creation in fact, contains statements which, to my apprehension, are irreconcilable with what we at present know of the constitution of Nature, and there is offered no appreciable hope, that I can discern, of a reconciliation from future discoveries. I limit this statement to my own mind and my own apprehension alone: if other divines, other astronomers, other naturalists think otherwise, I can only bow to their sincerity and look to them for a candid interpretation of my want of insight.

There is, indeed, a frame of mind, enviable and

worthy to be attained, which accepts all that is in the sacred Scriptures with a simple and a childlike faith, accepting it as the Word of God, and striving to keep it, and to love it, and to obey it all without question, and making no inquiry beyond the seeking whether it is written. They who attain to such a frame of mind I firmly believe accept the Bible in one of the senses in which it has been given to man :—

“ Self-questioned where it does not understand,
And with a superstitious eye of love.”

There is, however, another spirit, equally noble, for another class of men ; that spirit which in all reverence strives for a reason for the hope that is in us, and in humility inquires whether the things alleged are true and really meant. I trust it is in this spirit that I have pursued the present inquiry, and now present the results of it for the consideration of the thoughtful in the Christian Church, and to others also who are on conscientious grounds outside its pale ; and although I give what I regard as unimpeachable reasons why I cannot accept the Proem as being, or even as intended to be, an exact and scientific account of creation, nevertheless I shall also state why I am satisfied that it had originally a different intention and a far higher scope, and moreover contains within it elements of that same sort of superhuman aid or

superintendence which is generally understood by the undefined term of inspiration.

That it could not originally have been intended to give a scientific account of creation in its precise order, or method, or limitation of time, I am convinced when I read of (1) the existence of waters before the appearance of the sun ; (2) the clothing of the earth with fruit-trees and grass, each bearing its fruit, before the creation of the sun ; (3) the successive orders or stages of creation occupying each one single day.

There are also other difficulties regarding palæontological morphology, on which I forbear to speak ; it is enough for me that a man of Dr. Huxley's responsibility and deep knowledge of the subject and general fairness of mind states distinctly that the Mosaic account therein, as he interprets it, is at variance with the facts of Nature so far as is at present known. Further, it will be observed that I interpret the period of time, expressed again and again by the words, "There was evening, there was morning, one day," in the sense in which any plain man would understand them—namely, as being intended to represent the interval of time ordinarily represented by twenty-four hours. Moreover, I am unable sincerely to avail myself of what, with some tinge of irony, Dr. Huxley calls *the flexibility of the Hebrew language*,

and draw fine distinctions between the words "made" and "created," as if the document were that of a lawyer, or a glossary of scientific definitions. To all intents and purposes there is a representation of the creation of the sun and moon, after the representation of that of the fruit-bearing trees and the grass. There is also a distinct representation of each of these creations occupying a space of time limited by evening and morning, one day. These three representations (including that respecting the pre-existence of water), *if intended to be a statement of fact*, are, to my apprehension, in direct antagonism with our present knowledge of Nature and the operations therein.

Nevertheless, and in the face of these to me insurmountable difficulties, I feel as fully convinced also of the existence of a superhuman element running throughout the Proem from its beginning to its end. It is not, and it cannot be, simply a mere tradition from antecedent generations. For the record in Genesis is *sui generis* in the world's history; in all the annals of literature there is nothing that approaches it; not all the poets and philosophers that have ever lived could have combined their genius to compose the like of it in its succinctness, its concinity, its majesty. The myths of Plato on the origin and destiny of things, wonderful as they are for their exquisite beauty,

are utter childish babble when placed by the side of the Mosaic Proem. All other cosmogonies add grossness to infantine senility.

What, then, are we to say of these two apparently antagonistic elements contained in the same narrative, one of which is contradictory to the facts of Nature, so far as we know them, and the other introduces therein the suggestion of a superhuman element, implying more or less of Divine aid or control? For my own part, I fail to see any inconsistency here, which I do not also see, in kind at least, repeated throughout the entire scheme of Providence, whether as revealed in the Scriptures or as observed in Nature. For the Eternal Father unquestionably does teach His children at sundry times, in multifarious manners. Moreover, things are so constituted that the whole truth, in its absoluteness, is never taught and is never attained: the light is sufficient for the day, and often for that day only; and more light is generally attainable by a more diligent and skilful use of existing faculties and natural endowments. Further still, the object of the Proem seems to be to impress on a rude and primeval age, in a clear and emphatic manner, the Fatherhood of God over the whole creation; but its object was not to teach the order, the method, or the times in which that creation pro-

ceeded. Accordingly, a series of pictures is presented to the mind, in each of which some portions of the Divine creative power are successively displayed, in respect of the sun, or the moon, or the earth with its varied populations, on the land, or in the air, or in the waters. But it is a matter of entire indifference in what precise order the creative energy is depicted ; and, as a matter of fact, we find that order does occur which is best suited to impress the emotions and the intelligence of the mind. I hold that the distinction implied in this remark is of supreme importance, as removing all objections drawn from the fact that the order of the creations detailed in the Proem is not the order of natural fact.

Again, if we seek for the origin of this sublime Proem, it seems natural to assign it, as many writers have assigned it, to some ancient tradition handed down from previous generations, until, like the poems of Homer, it became committed to writing. But in this case, where lay the original source of the tradition itself? That source, I hold, as I have already stated, could not have been entirely human ; for, as we have also seen, experience and history have taught us that nothing like it, in respect of sublimity of conception, and gravity of diction, and perspicuity of statement, has appeared among the nations of the earth since the

remote age of its first appearance up to the time when the philosophical astronomer of Slough constructed his wonderful instruments and applied his genius to the scrutiny of the heavens, so pregnant and so suggestive.

But if the Proem be not entirely of human origin, we are then to ask in what way it is alleged or supposed that this superhuman aid was accorded to the mind of a man. Now, without entering upon the profound or inscrutable question as to the mode or extent of what we term divine inspiration, a mere cursory search into the sacred record soon discloses that the general agency is recorded to have been through visions in the night, or a trance by day. It is true that no such origin is actually assigned in the sacred record to the Proem in question; on the contrary, it is introduced without a preface, and with a majestic abruptness, befitting (as it seems to me) what professes to be the commencement of God's written word to man. Independently of this, omissions of matter, subsequently appearing to be of importance, are of constant occurrence in Scripture. We may therefore, I contend, assume the same sort of origin to this beginning of Genesis, which in so many other instances is stated to have been the mode of communication between man and the powers unseen, even the Spirit of God, divid-

ing unto every man severally as He will, and as the occasion serves. We may assume (without violation of probability) that in some remote stage of the world's history, remote beyond our knowledge, some holy seer, a man of God, after long and reverential pondering on the things around him, animate and inanimate, and on his own existence, fell asleep, either in the gloom of evening or in the light of noon-day, and in his sleep visions of creative processes passed before him. In his waking hours of meditation, something akin to what is now disclosed in the vision may have gradually dawned with uncertain light on his imagination ; but now a Power not his own has reduced it to an order more defined, and a conception more distinct. It is not, indeed, a complete panorama of the creation of things animate and inanimate, in its pure and absolute sense, that moves before the vision of his mind ; but there are vivid pictures or parables of creation, enacted like the scenes of a drama before him ; parables of the creation of what, in his wakeful hours, had excited his admiration, and such as when the vision was over he could remember and recount. Better than all, the creations were represented as the work of Him who was the God of his family and of his nation, and who had commanded him to love Him with all his heart.

And so, in the dreaming mind of the ancient seer, it may be in that undefined and darkling way wherewith in our dreams we rather perceive than see, chaos is present: an unformed earth plunged undefinedly in many waters, dark and deep. In his dream, and with the hearing of the mind, he heard a Divine Voice, speaking with a sublime authority, unknown before or since to man, "Let there be light"; and he now sees chaos and the waters which he had only heard or half-conjectured before: but as yet there is no blaze of the noontide light. And there the first scene of the creation drama closes. To his sleeping thoughts there had passed "an evening and a morning, one day."

Again the vision of the birth of things created is resumed, and he perceives an awful separation of the waters from each other at the bidding of the Divine Word. Part of these pass off beyond the firmament of heaven, now formed and disclosed at that same command, and part of them remain below. To the dreamer there has been again "an evening and a morning, a second day."

During the like limitations of a third day the earth emerges from the waters, continents and seas are arranged, and the new-born earth is clad with the trees of the forest and of the orchard, and the fields are arrayed in their mantles of

grass. These all, like the other things created, are blessed of God. As yet there had been no shadows flitting amidst the forests or reposing on hill and glade, such as he was wont to see at noontide or at the wane of day, for all as yet had been seen by a diffused and unconcentrated light. But now that the earth is arranged in its continents, and seas, and hills, and plains, and clothed in its glorious array of fruit-trees, bearing their fruit and their seeds each after its kind, then, and not till then, the sun in its majesty breaks forth and sheds its living light resplendent over the fair earth on the birthday of its completion. The shadows from cloud and hill and tree now vary the scene, and add new beauty as the day declines. In the evening there is the moon, and there are "the stars also," all created and blessed by the God of his fathers. And so ends the creation drama of the fourth day.

On the fifth and sixth days the creation vision presents to the seer's mind a succession of pictures, which, after the lapse of many centuries, were embodied by the Hebrew Psalmist in almost matchless poetry, and have ever since become a great possession to devout men in the Church of God. The new-clad earth no longer remains tenantless by life, but "among the cedars of Lebanon the fowls of the heaven have made their

nests, and sing among the branches"; "the high mountains are for the wild goats, and the rocks are a refuge for the conies." "By the sides of the streams the wild asses quench their thirst. Yonder is the sea, great and wide, wherein are things creeping innumerable, both small and great, the leviathan whom God hath formed to take his pastime therein." "These all wait upon God," and God pronounced them good. So sang the Psalmist, taking up his parable from the creation poem, sublimer even than his own. Meanwhile, on the sixth day, when all this fair creation is completed, where is he, its future lord and master, for whom all this wonderful array of life and beauty was called into being? And so the seer, in his trance, hears the voice which he recognises as the voice of God, "LET US MAKE MAN," and the man comes forth before the prophet's gaze, fashioned as nought else that lives besides, even as in the image of Him who created him. If we seek to realise the scene, can we doubt in what guise the new-formed man appeared? Surely erect, and in the attitude of prayer, and praise, and thanksgiving. And he, too, is blessed of God and pronounced to be "very good." Did the seer, in his dream, then also realise the picture so touchingly drawn by the Psalmist, even that the man "went forth to

his work and to his labour until the evening"? Who shall say? With this vision of the new-formed man the scenes of creation close; and "there was evening, and there was morning, the sixth day."

One day still remains, a day of rest, a peaceful Sabbath calm, for "the heaven and the earth were finished, and all the host of them." Was it on that visionary Sabbath morn that, as in the ancient tradition preserved in Job, but omitted in Genesis, "the morning stars sang together, and all the sons of God shouted for joy"? If so, then there is here the sublime picture of the first consecration of a day, which henceforth has become a day of days, a season of blessedness for man: THE SABBATH.

If such, or at all approaching such, were the visions of creation, and if amid such joy the entranced seer awoke from his dream, it could not well be otherwise than that the favoured saint would call his friends and his neighbours together, and sitting under his vine, or in the shade of his olive or his fig tree, he would recount his wonderful dream again and again, and still again. Meanwhile the tale itself, after the manner of the East, would speed its rapid way from city to city, until at length the vision, as such, lost its name, and it became a tradition. Was this the divine tradition with which Moses began the Pentateuch?

This, then, is the aspect under which I view the majestic Proem of the Book of Genesis. To me the interpretation wears the appearance of so much probability that I accept it as an approximate fact. To my mind it provides a key which fits and opens many of the locks of modern controversy. Both as an astronomer and a divine, musing on a difficult question now for half a century, it satisfies my mind, and it sets me free. Under this solution a man may be loyal to his faith in the sacred Scriptures, and faithful also in a fearless and ingenuous search for truth. Questions of development, and of protoplasm, and of the survival of the strongest, have no real place for contention in sight of this sacred panorama of the visions of creation. It bears no true and real relation to any vexatious doubts as to the priority of palæozoic or cainozoic populations. The astronomer is left in peace to take his prism, and scrutinise the materials of distant suns, and the genesis, it may be, of new worlds; and the naturalist is free to take his still more marvellous lens, prisms only in another form, and search for the hidden seat of the mechanism of the emotions; all this, and more than this, he may do, without the possibility of a conflict with the sacred record. The duty both of the Astronomer and of the Naturalist is the same, it is the search for truth

